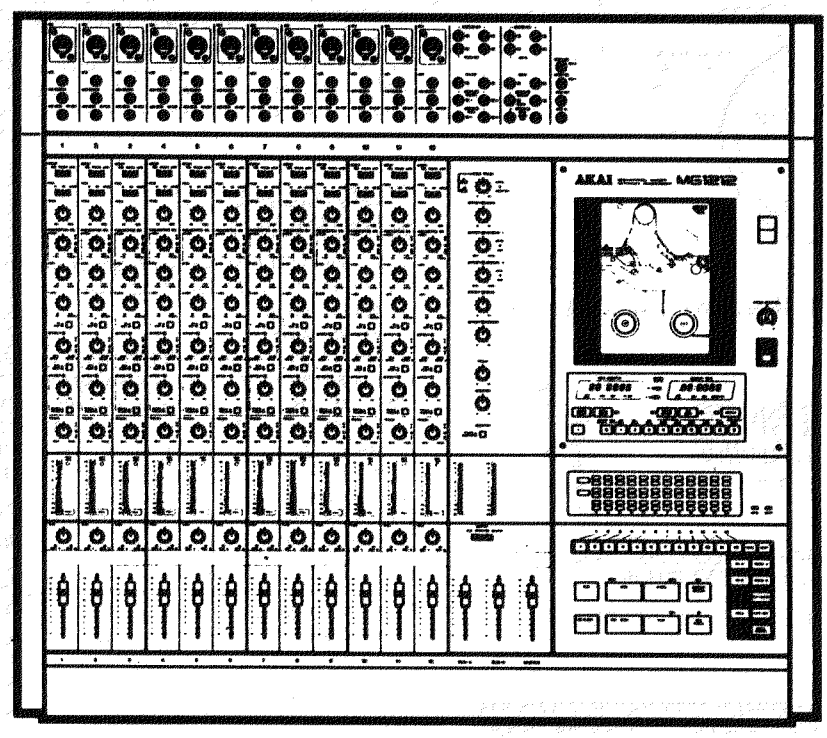
AKAI

Hi-Fi & Video

MG1212

12 CHANNEL MIXER
12 TRACK RECORDER



WARNING

To prevent fire or shock hazard, do not expose this appliance to rain or moisture.

Operator's Manual

1

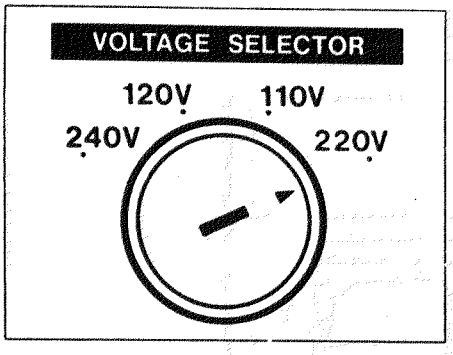
Warning

Power requirements

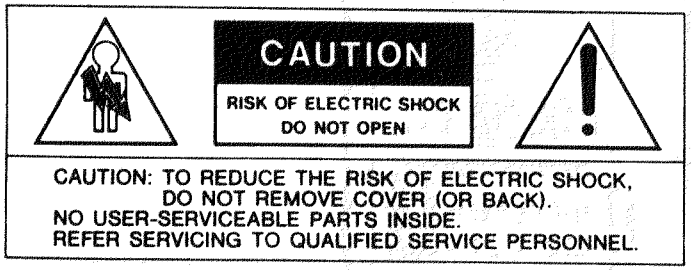
Power requirements for electrical equipment differ from area to area. Please ensure that your machine meets the power requirements in your area.
If in doubt, consult a qualified electrician.
120 V, 60 Hz for USA and Canada
220 V, 50 Hz for Europe except UK
240 V, 50 Hz for UK and Australia
110 V/120 V/220 V/240 V, 50/60 Hz
convertible for other countries.

Voltage conversion

Models for Canada, USA, Europe, UK and Australia are not equipped with this facility. Each machine is preset at the factory according to its destination, but some machines can be set to 110 V, 120 V, 220 V or 240 V as required.
If your machine's voltage can be converted:
Before connecting the power cord, turn the VOLTAGE SELECTOR located on the beneath the sidewooden panel (right hand side) with a screwdriver until the correct voltage is indicated.



This equipment conforms to EEC standard No. 82/499.


CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

- The lightning flash with the arrowhead symbol superimposed across a graphical representation of a person, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure; that may be of sufficient magnitude to constitute a risk of electric shock.

- The exclamation point within an equilateral triangle is intented to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

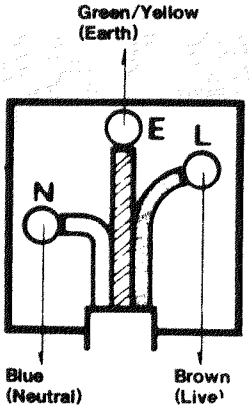
Precautions

FOR CUSTOMERS IN THE UK

IMPORTANT FOR YOUR SAFETY

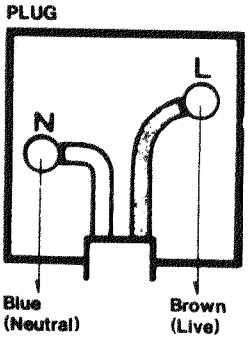
The flex supplied with your machine will have either two wires or three, as shown in the illustrations.

THREE CORE FLEX WARNING THIS APPARATUS MUST BE EARTHED IMPORTANT



The wires in this mains lead are coloured in accordance with the following code:
Green-and-yellow: Earth
Blue: Neutral
Brown: Live
As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows: The wire which is coloured green-and-yellow must be connected to the terminal in the plug which is marked by the letter E or by the safety earth symbol ⏚, or coloured green or coloured green-and-yellow.
The wire which is coloured blue must be connected to the term. which is marked with the letter N or coloured black.
The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.

TWO CORE FLEX IMPORTANT



The wires in this mains lead are coloured in accordance with the following code:
Blue: Neutral
Brown: Live
As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows: The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black.
The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.

- Do not connect any wire to the larger pin marked E or ⏚ when wiring a plug. Ensure that all terminals are securely tightened and that no loose strands of wire exist.

Features

The MG1212 is a 12 channel mixer combined in a compact design with a 14 track multi-track recorder using MK20 1/2 inch cassette tape.

- **There is no need to connect the mixer and the recorder. The buttons can be easily operated for mixing down and ping-pong recording.**
- **The layout of the cassette deck, mixing section, connection panel, indicator, and FL display is designed for ease of operation and visibility.**

The fact that the mixer and recorder are combined together, allows a single operator to easily operate both the mixing and recording sections.

- **MK20 1/2 inch cassette tape**

This unit uses high performance 1/2 inch tape, which is then mounted in a cassette housing, simplifying both storage and transportation. This tape uses cobalt high performance magnetic materials. The highest tape speed is 19 cm/sec, the same as that of open reel tape decks. This high tape speed provides superior high range dynamic range characteristics. The recording capacity of MK20 cassette tape is 10 minutes at 19 cm/sec and 20 minutes at 9.5 cm/sec.

Cassette deck

- **The MG1212 features AKAI's exclusive low noise crystal ferrite Super GX multi-track heads.**

The high-performance heads have superior electromagnetic nsformation characteristics. They are also durable, resistant to dirt, and precision made for high functional operability.

- **High-efficiency erasing head**
- **dbx-type I noise reduction**

The MG1212 is equipped with a dbx-type I noise reduction system having a 1:2 compression/expansion ratio over the entire audio range. The dbx noise reduction feature provides a high noise reduction effect of 30—40 dB over the entire range. The tape saturation level can be extended by approximately 10 dB. This means that none of the dynamic range of the recording source is lost, during both normal recording as well as ping-pong recording between tracks.

- **Exclusive Akai lambda-loading mechanism**

This mechanism makes sure that the tape-to-head contact and tape transport operation is perfectly stable. The loading roller also functions as a scrape filter, thus greatly reducing modulation noise. Thus the tape tension between the loading roller and the capstan is always maintained at the ideal level.

- **This unit is equipped with an auto-memory system and a manual memory for which the time can be specified directly.**

Searching for specific parts and repeat playback of parts is possible through the use of these memory features.

- **The auto or manual memory system can be used for the specification of any tracks up to a maximum of 12 for automatic punch-in/punch-out recording.**
- **The recorded signals on a desired track can be muted without using the fader controls, through the use of the auto PB muting system. The track and the mute time can be specified in the same manner as the punch-in/punch-out recording times.**
- **Tape control function equipped with micro-processor**

The direct function change system allows the feather touch operation buttons to be used for rewinding and playback without requiring that the stop button be operated. The tape transport is controlled with accurate timing to protect the tapes.

- **Built-in automatic functions using exclusive micro-processor**

The MG1212 is equipped with a real time tape counter which has 1/10 sec. display capability.

- **Direct lead-in and power eject system**

The exclusive tape loading mechanism automatically loads, unloads, and ejects the tape without requiring that the operator touch the tape.

- **Two speeds: 19 cm/s and 9.5 cm/s**
- **Pitch control for changing the tape speed will operate over a maximum ±12%**
- **The CUE button is useful for finding the beginning of pieces.**
- **Track channel display equipped with large FL display**
- **Peak level meter having two-color LEDs for easy monitoring. Equipped with OVERLOAD indicator**

Mixing section

- **XLR-type, cannon plug type, transformerless balanced microphone input jacks incorporated into input modules.**
- **ACC IN/OUT jack for each channel**

An equalizer or effector device can be used for each channel and track.

- **Each input module equipped with a 3 band (HIGH, MID, and LOW) parametric equalizer for sound creation**
- **Double effect IN/OUT jacks for stereo (equipped with PRE/POST switch) and monaural configurations**

An independent three channel effect loop configuration is also possible in addition to a stereo effect loop configuration.

- **Master peak level meter with meter selector**

The BUS level, EFFECT A level, and master level can all be monitored by changing the selector position.

- **Headphone jack for monitoring use**

Equipped with separate level controls for deck and mixing section

- **Stereo ping-pong recording using two bus systems is possible by a simple button operation**

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Before using this unit

Safety precautions

To prevent electrical shock

- Do not remove the cabinet or panels.
- Do not touch the power plug with wet hands.

Remove the power cord from the wall outlet by pulling on the plug.

Pulling on the power cord can cause internal strands to break.

Turn off the unit after use.

Do not allow liquids or metallic objects to enter the unit.

Do not allow metallic objects such as wires, pins, and coins, or easily burnable objects such as paper to enter the unit through openings such as the cassette housing or jacks. Do not place cups etc., containing water or other liquids on or near the unit.

Alterations are dangerous.

Do not attempt to alter or modify the MG1212 in any way as this is dangerous and can lead to malfunctioning of the unit.

Location for use

The location where the MG1212 is used is important for the maintenance of optimum operating performance.
Do not use or install the unit in the following locations:

- **Locations where the unit will be subject to thermal radiation from heating devices, or where the unit will be exposed to direct sunlight.**
- **Locations having high humidity or dust.**
- **Locations where the unit will be subject to vibration.**
- **Locations where the unit will be subject to extreme temperatures.**

Humming sounds and static

If humming or static is encountered, try reinserting the power plug to change the polarity, checking the connections of the plugs and jacks, and changing the arrangement of the equipment being used, in order to eliminate these undesirable sounds.

Moisture condensation

Sudden changes in temperature such as when a room heater is turned on, are liable to cause moisture condensation on the tape heads, capstans, tape guide and other metallic parts. Operating the unit in this condition will cause damage to the tape. Waiting approximately one hour will allow the unit to reach room ter perature, thereby eliminating the condensation of moisture.

Precautions regarding spray-type insecticides

Damage or deformation of the panel surface is liable to occur if spray-type insecticides come into contact with the unit.

Use of the MG1212

The MG1212 is equipped with a memory back-up circuit using Ni-Cd batteries. These batteries will not be recharged sufficiently. And the micro-processor will not function correctly under the following circumstances.
Press the **RESET** button after the MG1212 is turned on to restore proper operation.

- **When the unit is first used**
- **When the unit has been disconnected from the power source and not used for one month or more**

Moving the unit

Move the MG1212 only after removing all the plugs and cords connected to it.

Adjustment of the MG1212

The heads, tape guides, recording/playback levels, etc., are all factory-adjusted to obtain the best possible characteristics. A special tape and measurement equipment are required for adjusting the unit. Contact your nearest Akai dealer if adjusting the MG1212 becomes necessary. Do not attempt to adjust the unit on your own.

Use of headphones

Be sure the volume level during monitoring is not too high.

Specifications

Deck

Tape format: 1/2 inch Akai original cassette tape (MK20)
Track format: 14 track/4 channel (Including control track (1) and sync track (1))
Head configuration: Super GX recording/playback head (1)
Control head (1)
Erase head (1)
Tape speed: 19 cm/s and 9.5 cm/s
Tape speed deviation: ±0.2% (19 cm/s and 9.5 cm/s)
Pitch control: ±12% (of standard speed)
Recording time: 10 minutes (19 cm/s) or 20 minutes (9.5 cm/s)
Wow and flutter: (Recording/playback) 19 cm/s: 0.03% (JIS WTD)
±0.05% W. Peak (WTD)
9.5 cm/s: 0.04% (JIS WTD)
0.06% W. Peak (WTD)
Harmonic distortion: 19 cm/s: 0.5% 0 dB 1 kHz
3% +12 dB 1 kHz
9.5 cm/s: 0.5% 0 dB 1 kHz
3% +10 dB 1 kHz
Tape rewind time: approx. 120 seconds (MK20)
Dynamic range: 19 cm/s: 115 dB at 1 kHz
9.5 cm/s: 115 dB at 1 kHz
Noise reduction: dbx Type I
equency characteristics: 19 cm/s: 50 Hz—20 kHz ±3 dB
9.5 cm/s: 50 Hz—16 kHz ±3 dB
SN ratio: 94 dB (NAB A-WTD) (3% distortion 315 Hz)
Cross talk: (Between neighbouring channels) 55 dB (19 cm/sec., 9.5 cm/sec.)
Erasure ratio: more than 75 dB (125 Hz)
Motor configuration: Capstan: FG servo DC motor (1)
Reel motor: Coreless DC motor (1)

Mixer: (0 dB=0.775 V r.m.s.)
Inputs
MIC (5 kohms, balanced):
Standard input level −60 dB/−40 dB/−20 dB
Maximum input level −15.5 dB/+4.5 dB/+8.0 dB
LINE (47 kohms, phone jack):
Standard input level −21 dB
Maximum input level +22 dB
AUX (47 kohms, pin jack):
Standard input level −5.5 dB
ACC RECEIVE (10 kohms, phone jack):
Standard input level −5.5 dB
EFFECT A, B RECEIVE (47 kohms, phone jack):
Standard input level −21 dB
BUS IN (47 kohms, phone jack):
Standard input level −5.5 dB
EFFECT A, MIX 1/2 (47 kohms, phone jack):
Standard input level −5.5 dB
SYNC IN (47 kohms, phone jack):
Standard input level −21 dB

Outputs
ACC SEND (120 ohms, phone jack):
Standard output level −5.5 dB
MASTER OUT (120 ohms, pin jack)
Standard output level −5.5 dB
Maximum output level +8.5 dB
Output capacity +17.5 dB
TRACK OUT (120 ohms, pin jack):
Standard output level −5.5 dB
Maximum output level +1.5 dB
Output capacity +17.5 dB
MONITOR OUT (120 ohms, pin jack):
Standard output level 0 dB
Maximum output level +14 dB (MASTER MONITOR)
+7 dB (TRACK MONITOR)
Output capacity +17.5 dB
EFFECT SEND A (120 ohms, pin jack):
Standard output level −5.5 dB
Maximum output level +1.5 dB (POST)
−5.5 dB (PRE)
EFFECT SEND B (120 ohms, phone jack):
Standard output level −5.5 dB
Maximum output level +1.5 dB (POST)
−5.5 dB (TRACK)
BUS OUT (120 ohms, phone jack):
Standard output level −5.5 dB
Maximum output level +1.5 dB
SYNC OUT (120 ohms, phone jack):
Standard output level −5.5 dB
PHONES
maximum: 100 mV/8 ohms

S/N
MIC: more than 55 dB
LINE: more than 60 dB
Trimmer adjustment range: −20 dB — 0 dB
Parametric equalizer:
HIGH: 1.5 kHz — 15 kHz ±15 dB
MID: 350 Hz — 5 kHz ±15 dB
LOW: 40 Hz — 800 Hz ±15 dB
Indicators:
OVERLOAD: lights up at −3 dB from the maximum level
SYNC LEVEL: lights up at level −15 dB
lights up at level −5 dB
Dimensions: 856 (W) ×205 (H) ×752 (D) mm
Weight: 42 kg

* The above specifications and appearance of the unit are subject to change without notice.

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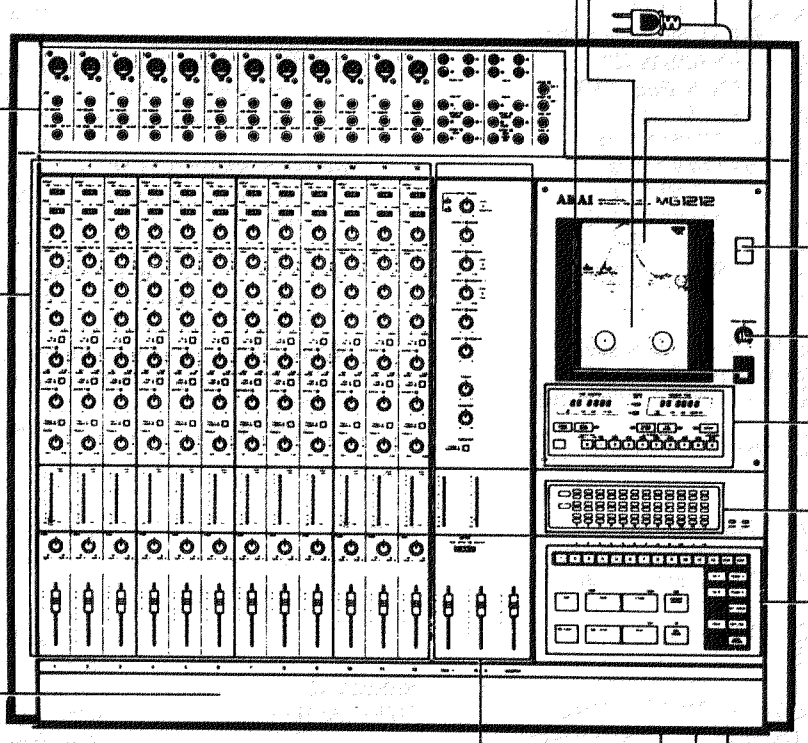
Controls and parts

Cassette lid and cassette holder
MK20 cassette tape is inserted here. This holder can be opened/closed by the power eject or auto lead-in system when the power is ON.

TAPE SPEED selector (9.5 / 19)
Used to select the recording/playback tape speed.
MK20 cassette tape has the following recording/playback times:
9.5 (3-3/4 ips) : 20 minutes
19 (7-1/2 ips) : 10 minutes

Power cord and plug

Maintenance cover
Protects the tape and heads. This cover is closed during recording and playback. It is only opened when direct contact with the heads or tape is required for cleaning or demagnetizing.



Jack panel

Input modules (1—12)

POWER switch
Turns the power on/off.

Counter display

Channel/Track display

Channel/Track selectors and Tape transport

Arm rest

Master module

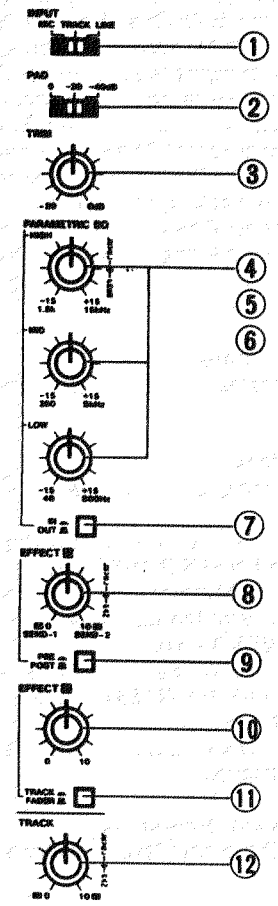
REMOTE jack
Plug of remote control unit is connected here. Remote control units (sold separately)
Wireless RC-X9
Wired RC-X3

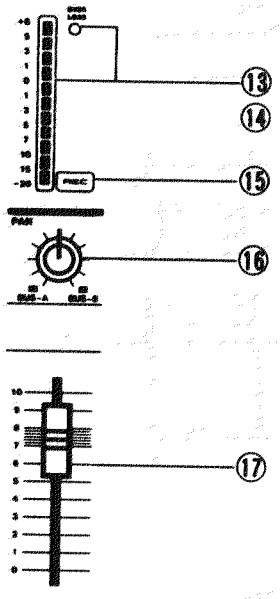
RESET button
Used to initialize the built-in microprocessor.

PITCH CONTROL knob
Used to alter the playback speed of the tape. The speed can be altered by up to ±12% of the standard speed; allowing the sound to be altered by approximately one full step up or down.
This knob is normally set to the center click stop (0) position.

PHONES jack (stereo)
Headphones used for monitoring are connected to here.

Input modules (1—12)





(1) **Input selector (MIC/TRACK/LINE)**
Used to select the input source.
MIC: When the input signal from the microphone jack is used
TRACK: When the playback signal from the deck is used
* The input modules correspond to the track numbers of the tape deck.
LINE: When the input signal from the line jack is used

(2) **PAD selector (0, —20 dB, —40 dB)**
Used for damping the signal from the **MIC** input. Normally set to the 0 position.

(3) **TRIM control knob**
Used to adjust the signal level of the **MIC** and **LINE** input. The adjustment range is from —20 dB to 0 dB.
This control knob cannot be used to adjust the signal level when the input selector is set to the **TRACK** position

(4) (5) (6) **PARAMETRIC EQ (HIGH/MID/LOW)**
Used to boost or reduce the level of specific frequency ranges.
LEVEL control: maximum level adjustment over the range of ±15 dB
FREQ control: sets the equalization center frequency within the following frequency ranges
HIGH: 1.5 kHz—15 kHz
MID: 350 Hz—5 kHz
LOW: 40 Hz—800 Hz

(7) **PARAMETRIC EQ IN /OUT switch**
Used to switch the built-in parametric equalizer on/off.
IN : built-in parametric equalizer **ON**
OUT : built-in parametric equalizer **OFF**

(8) **EFFECT A LEVEL —⊕— PAN control**
Used to adjust the output level to the effector device units.
LEVEL control: adjusts the output level to the **EFFECT A SEND** jack.
PAN control: adjusts the imaging of the two signal (L-1 and R-2) outputs to the EFFECT A SEND jack

(9) **EFFECT A PRE /POST selector**
Used to select the path of the signal output to the **EFFECT A SEND** jack.
PRE : Signal is output without passing through the input fader control.
POST : Signal is output through the input fader control.

(10) **EFFECT B control**
Used to adjust the output level to the **EFFECT B SEND** jack.
(signal output is parallel monaural)

(11) **TRACK /FADER control selector**
Used to select the signal output to the **EFFECT B SEND** jack.
TRACK control : Playback signal of tape deck or source signal (during recording) is output
FADER control : Signal which passed through input fader control is output

(12) **TRACK LEVEL —⊕— PAN control**
Used to adjust the playback monitor level from the deck or the imaging of the source input being monitored during recording. The **MONITOR** selector of the master module must be set to the **TRACK** position ( ) for this control to be used.
LEVEL control: Adjusts the monitor level.
PAN control: Adjusts the imaging of the signals.

(16) **PAN (BUS LEVEL) control**
Used to adjust the imaging of the various input module signals (panoramic control) and the bus level (**BUS A** and **BUS B**).

(13) (14) **Peak level meter and OVER LOAD indicator**
Displays the peaks of the recording or playback level.
The **OVERLOAD** indicator lights up at a level 3 dB below the saturation level of the amplifier.

(15) **REC indicators**
Lights up to indicate the tracks corresponding to the input modules which are in the recording standby or recording mode.

(17) **Input fader control**
Used to adjust the output level from the input modules.

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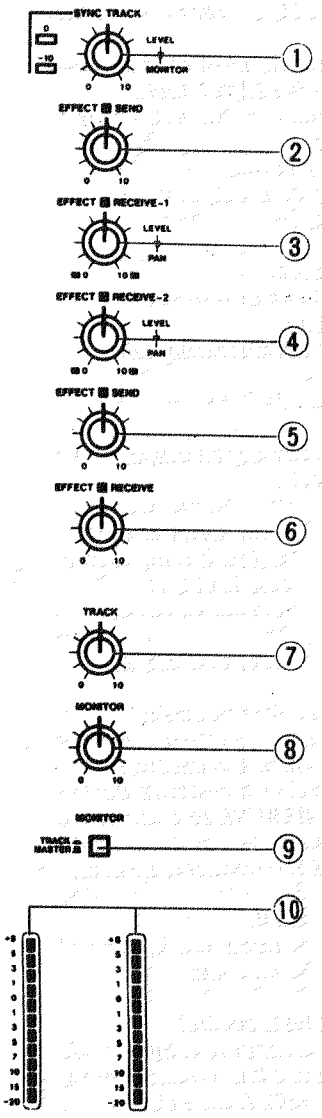
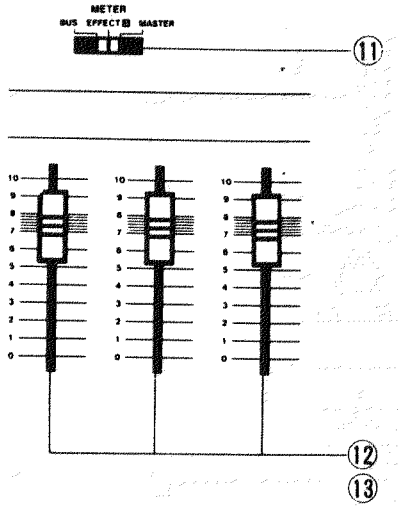
Master module





(1) SYNC TRACK LEVEL MONITOR control and indicator (0, –10)
Used when synchronization signals are recorded on the sync track and when synchronization signals are played back.
LEVEL control: Adjusts the recording level of the track used for recording synchronization signals.
MONITOR control: Adjusts the monitor level during recording and playback.
The **MONITOR** selector of the master module is set to the **TRACK** position (▂) for monitoring during recoridng.
The output of **SYNC OUT** remains the same regardless of the position of the **LEVEL** control.

(2) EFFECT A SEND control
Used to adjust the output level (L, R) to the **EFFECT A SEND** jack.
Master level control for the **EFFECT A** controls of the input modules.

(3) (4) EFFECT A RECEIVE-1 and LEVEL PAN control
Used to adjust the effector devices input level from the **EFFECT A RECEIVE-1** and **2**, and the imaging.
LEVEL control: Adjusts the level of the signals mixed by the master bus.
PAN control: Adjusts the imaging of the signals mixed by the master bus.

(5) EFFECT B SEND level control
Used to adjust the level of the signal output from the **EFFECT B SEND** jack.
Master level control for the **EFFECT B** level controls of the input modules.

(6) EFFECT B RECEIVE control
Used to adjust the effector signal input level from the **EFFECT B RECEIVE** jack.
The input signal can be set for mixing by the track bus (**TRACK** ▂) or the master bus (**MASTER** ▇) by the **MONITOR** selector.

(7) TRACK level control
Used to adjust all of the recording/playback monitor levels of the deck.
Master level control for the **TRACK** level controls of the input modules.

(8) MONITOR level control
Used to adjust the output level from the **MONITOR OUT** and **PHONES** jack.

(9) MONITOR (TRACK ▂ /MASTER ▇)
Used to select between monitoring of the master output or monitoring of the track output. The input fader control is used to adjust the deck input level when the deck is recording. Thus, setting this control to the **TRACK** (▂) position when the monitor level is different (imaging) from the recording level, allows monitoring at the **TRACK** level of each input module.
(Setting this control to the **TRACK** (▂) position allows monitoring at the estimated level for tracking down or for monitoring the imaging)

(10) Peak level meter
Indicates the master level, bus level, or **EFFECT A** level.

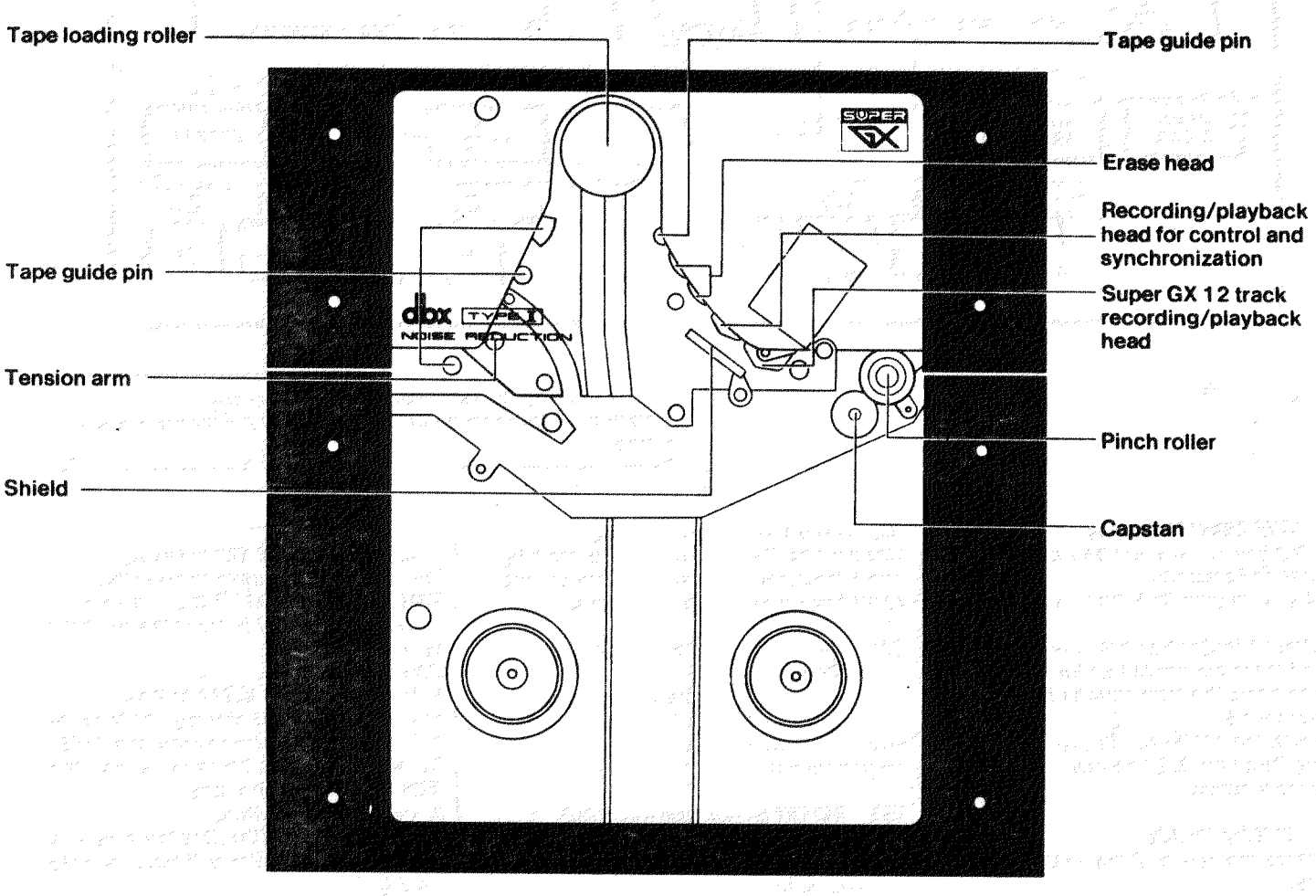
(11) METER selector
Used to switch the peak level meter indication.
BUS: Peak level meter indicates the output level of **BUS-A** and **BUS-B**. The left side of meter indicates the **BUS-A** level and the right side indicates the **BUS-B** level.
EFFECT A: Meter indicates the outp level of the **EFFECT A SEN** jack.
MASTER: Meter indicates the **MASTER** output level.

(12) BUS-A and BUS-B fader control
Used to adjust the output levels of these buses.

(13) MASTER fader control
Used to adjust the output level of the **MASTER OUT**.

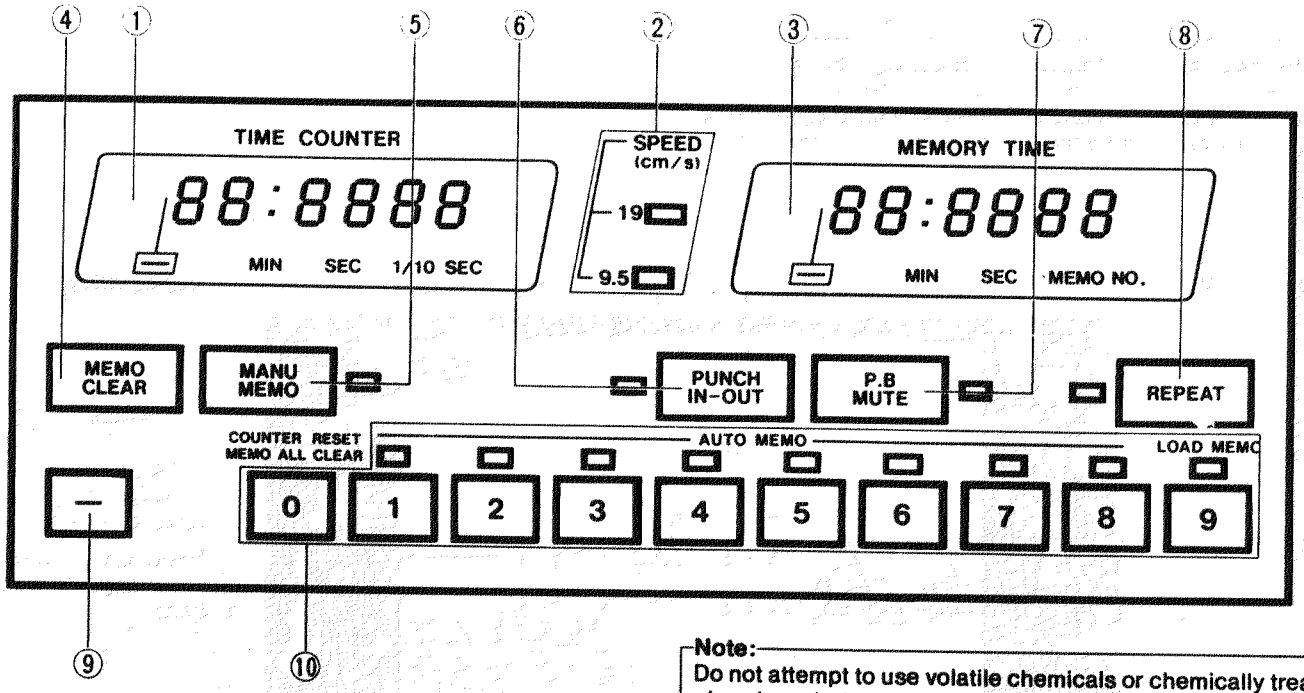
Tape transport

Note
Since the Akai MG1212 uses an optical tape detection system do not allow this area to be exposed to bright light while the tape is running. Failure to observe this precaution may cause the auto-stop mechanism to operate, stopping the tape.



Note:
Do not attempt to use volatile chemicals or chemically treated cleaning cloths to clean the clear acryl window of the cassette lid and the maintenance cover.

9
Counter display



Note:
Do not attempt to use volatile chemicals or chemically treated cleaning cloths to clean the clear acryl window of the FL display.

(1) TIME COUNTER display
Running time of tape will be indicated in minutes and seconds.
A dot (.) indicates that the time is negative.
A colon (:) indicates that there are no control signals recorded on the cassette tape and that the tape counter functions have stopped.
Although the 1/10 sec. display will stop during Fast Forward and Rewind, this is not a malfunction.

(2) SPEED indicator
Indicates the status of the **SPEED** select button.

(3) MEMORY TIME display
Indicates the time stored in the memory (minutes and seconds) and the **MEMO NO.**
A dot (.) indicates that the time stored in the memory is negative.

(4) MEMO CLEAR button
Used for clearing the time set in the memory and for resetting the **TIME COUNTER** to "00:00 0".

(5) MANU MEMO button and indicator
Used when the numeric buttons (0—9) are used to directly specify a time for the manual memory.

(6) Auto PUNCH IN-OUT button
Used when the auto memory system is used for automatic punch-in/punch-out recording between any two points.

(7) Auto P.B. MUTE button and indicator
Used with the auto memory system to mute a prerecorded track (or tracks) without using the fader controls of the mixing section.

(8) REPEAT button and indicator
Used with the memory system (auto/manual) for repeat playback between any two points.

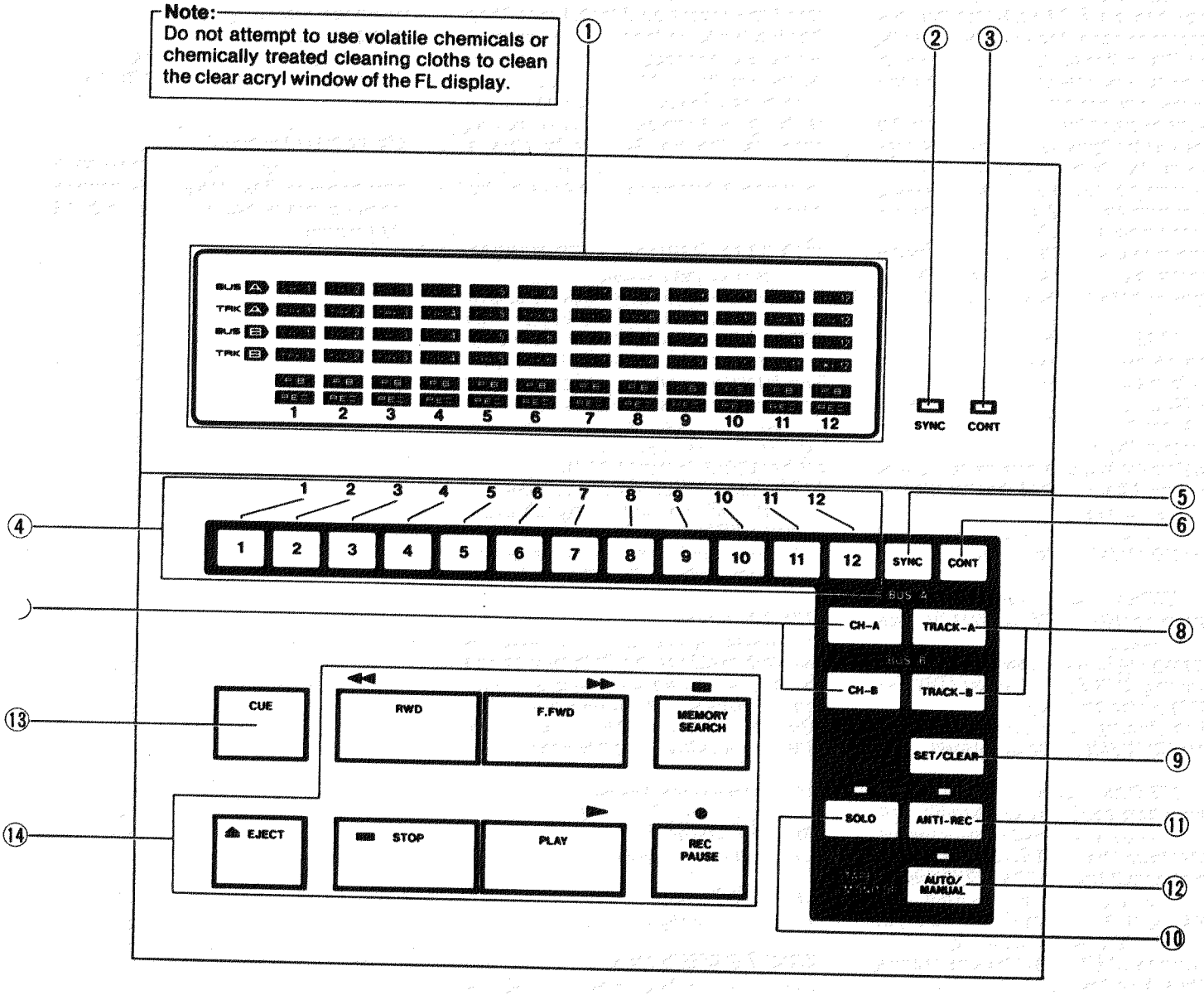
Note:
Repeat operation will not function when set time is less than 2 seconds.

(9) Auto memory buttons (0—9) and indicators
Used for the memory functions, for the time input, canceling of the memory contents, and resetting of the counters.

(10) —(Minus) button
Used for returning to any desired point prior to the time displayed on the **MEMORY TIME** counter. (For example, two minutes previous to the present point)

Resetting the TIME COUNTER display
This procedure is used to reset the **TAPE TIME** counter to "00:00 0". The time set in the auto memory is also cleared at the same time.
Operation
1. Press the **MEMO CLEAR** button.
The **MEMORY TIME** display will indicate " R:H ". If, for some reason, the **TIME COUNTER** is not to be reset, press the **MEMO CLEAR** button again.
2. Press the "0" button.
The **TIME COUNTER** display and the **MEMORY TIME** display will both indicate "00:00 0".

Note:
Do not attempt to use volatile chemicals or chemically treated cleaning cloths to clean the clear acryl window of the FL display.



(1) Channel/track display
Indicates the channels and tracks using the buses. The lower section indicates the recording/playback status of the tracks.

(2) SYNC indicator
Indicates the status of the sync track. Recording standby is indicated when the indicator is blinking and recording is indicated when the indicator is lit up.

(3) CONT indicator
Indicates the status of the control track. Recording standby will be indicated when the indicator is blinking and recording is indicated when the indicator is lit.

(4) Channel/track select buttons (1–12)
Normally used for specifying the tracks to be recorded by the deck.
When one of these buttons is pressed, the display of the corresponding track will change from "**PB**" to "**REC**", and the indicator will start blinking. The indicator will stop blinking and will light up when recording begins. Pressing the button again will change the indicator from "**REC**" back to "**PB**". These buttons are also used for setting **SOLO** and when using the buses.

(5) SYNC button
Used when a synchronization signal (sync signal) is recorded from a electronic metronome or an electronic instrument. The **SYNC** indicator starts blinking when this button is pressed, indicating the recording standby mode. Pressing this button again will extinguish the indicator if recording is not desired.

(6) **CONT** button
Used when a control signal for the tape counters is recorded onto blank tape. The **CONT** indicator starts blinking when this button is pressed, indicating the recording standby mode.
Be sure to press this button to select the mode which allows the recording of control signals when unrecorded and partially recorded tapes are used. Pressing this button again will extinguish the indicator if recording is not desired.
* The mode which allows the automatic recording of control signals is always selected when th power is turned off.

(7) **CH-A** button/**CH-B** button
Used to specify whether the input module output is to be sent to the buses. The **CH-A** button selects the channel to **BUS-A** and the **CH-B** button selects the channel to **BUS-B**.
Pressing the buttons causes the corresponding **BUS** channel display (**CH1** — **CH12**) start blinking.
* The display continues blinking until the **SET/CLEAR** button is pressed.

(8) **TRACK A/TRACK B** buttons
Used to specify the track that the bus output is sent to.
Pressing the buttons causes the corresponding BUS track display (**TRK1** — **TRK12**) to start blinking.
* The display continues blinking until the **SET/CLEAR** button is pressed.

(9) **SET/CLEAR** button
Used when setting the channels and tracks using the bus, and to clear the set channels and tracks. The display indication changes from "**PB**" to "**REC**" when the recording track is specified, and "**REC**" will be indicated for the input modules to be used for recording.
Channels (**CH-A** or **CH-B**) and tracks (**TRACK-A** or **TRACK-B**) are cleared by first pressing the button corresponding to the channel or track to be cleared, and then this button.

(10) **SOLO** button and indicator
Used to monitor only the sound of a certain input module. The channel to be monitored is selected by activating the normal monitoring mode while holding down the corresponding channel/track selector button (1—12). The indicator is extinguished when the normal monitoring mode is selected.

(11) **ANTI-REC** button
Used to prevent accidental recording. Setting tracks to the recording standby mode, and pressing the **REC PAUSE** (●) button and **PLAY** (▶) button at the same time to start recording while the indicator is lit up, will not select the recording mode but the playback mode instead. This mode is canceled and the indicator is extinguished by pressing this button again.

(12) **TAPE MONITOR AUTO/MANUAL** button and indicator
Used to select whether tape or source monitoring is automatic or manual. The **AUTO** mode is selected when the power is turned on and the indicator lights up. The **MANUAL** mode is selected and the indicator is extinguished by pressing the button. The track to be monitored is selected by pressing the corresponding channel/track button (1—12).
* The auto monitor mode is as follows:
  Tape monitor mode: during **PLAYBACK** and **REWIND**
  Source monitor mode: during **EJECT**, **RECORD**, **RECORD STANDBY**, and **STOP**

(13) **CUE** button
This button is held down to monitor the desired sections by listening to the recorded sound while the tape is rewinding or being fast-forwarded. The **MONITOR** selector of the master module is set to the **TRACK** ( ) position.

(14) Tape transport buttons

RWD (◀◀) button
Used to rewind the tape.

F. FWD (▶▶) button
Used to fast-forward the tape.

MEMORY SEARCH button
Used to rewind/fast-forward the tape to the time indicated on the **MEMORY TIME** display. By pressing the PLAY (▶) button during rewind/fast forward playback automatically starts from the time indicated on the **MEMORY TIME** display.

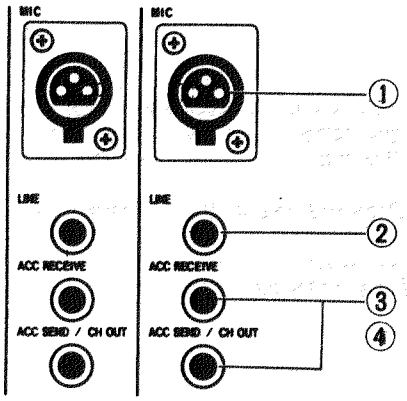
EJECT (⏏) button
Used to open the cassette holder. Press this button only when the unit is in the **STOP** mode.

STOP (■) button
Used to stop tape transport, recording, and playback (also repeat playback).

PLAY (▶) button
Used for selecting the playback and recording modes.
Recording begins by pressing this button together with the **REC PAUSE** button.

REC PAUSE (●) button.
Used to select the recording and recording standby modes. Recording begins by pressing this button together with the **PLAY** button.

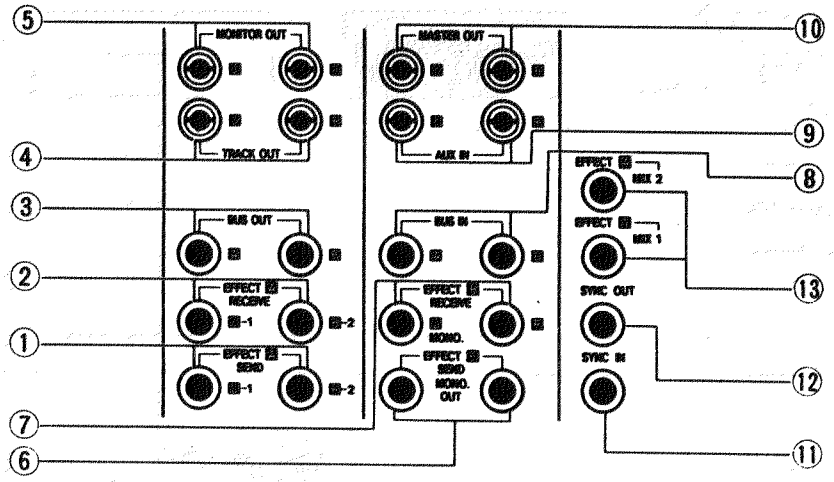
Jack Panel



(1) MIC jack (balanced input)
The cannon plug of the microphone is connected here.

(2) LINE input phono jack (phono plug)
The phono plug cord from the output jack of a guitar, synthesizer, or rhythm oscillator is connected here.

(3) (4) ACC RECEIVE and ACC SEND/CH OUT phono jacks
Used when effector devices are to be utilized only for certain channels.
The connection point is between the preamp and the parametric equalizer.
These are normally internally patched, and thus a shorting pin is not required. Use of the **ACC SEND/CH OUT** jack allows output to be obtained without interrupting the connection.



(1) EFFECT A SEND L-1, R-2 phono jacks
Output jacks used for the signal output to the effector devices. They are connected to the input jacks of the effector devices by phono plugs. The output is stereo. The channels are independent of each other.

(2) EFFECT A RECEIVE L-1, R-2 phono jacks
Input jacks used for the signal input from the effector devices to the mixer. They are connected to the output jacks of the effector devices by phono plugs.

(3) BUS OUT A and B phono jacks
Output jacks for **BUS-A** and **BUS-B**.

(4) TRACK OUT L, R pin jacks
gnal output pin jacks for track mixer.
he output signal is a composite of the signals of the respective tracks.

(5) MONITOR OUT L, R pin jacks
Signal output pin jacks for monitor module.
Used when monitoring by speakers etc.

(6) EFFECT B SEND (MONO OUT) phono jacks
Output jacks used for the signal output to the effector devices. They are connected to the input jacks of the effector devices by phono plugs.

(7) EFFECT B RECEIVE phono jacks
EFFECT B RECEIVE L-1 MONO and R-2 input jacks used for the signal input from the effector devices. They are connected to the output jacks of the effector devices by phono plugs.

(8) BUS IN A, B phono jacks
Used when external signals are input to **BUS-A** or **BUS-B**.

(9) AUX IN L, R pin jacks
Used when mixing signals from other mixers and effector devices. These jacks are connected to the master bus input of the master mixer.

(10) MASTER OUT L, R pin jacks
Output jacks for the master mixer. Used for track-down operations.

(11) SYNC IN phono jack
Used when recording the signals of an electronic metronome, synthsizer, or music sequencer as the synchronization signal for automatic play etc.

(12) SYNC OUT phono jack
Used for the output of the electronic metronome signals and synchronization signals for automatic play recorded on the sync track.

(13) (14) EFFECT A MIX 1/MIX 2 phono jacks
Used for the connection of the effect send output of an external mixer. The signal inputs to these jacks are mixed with the **EFFECT A** output from **EFFECT A SEND**, and then output.

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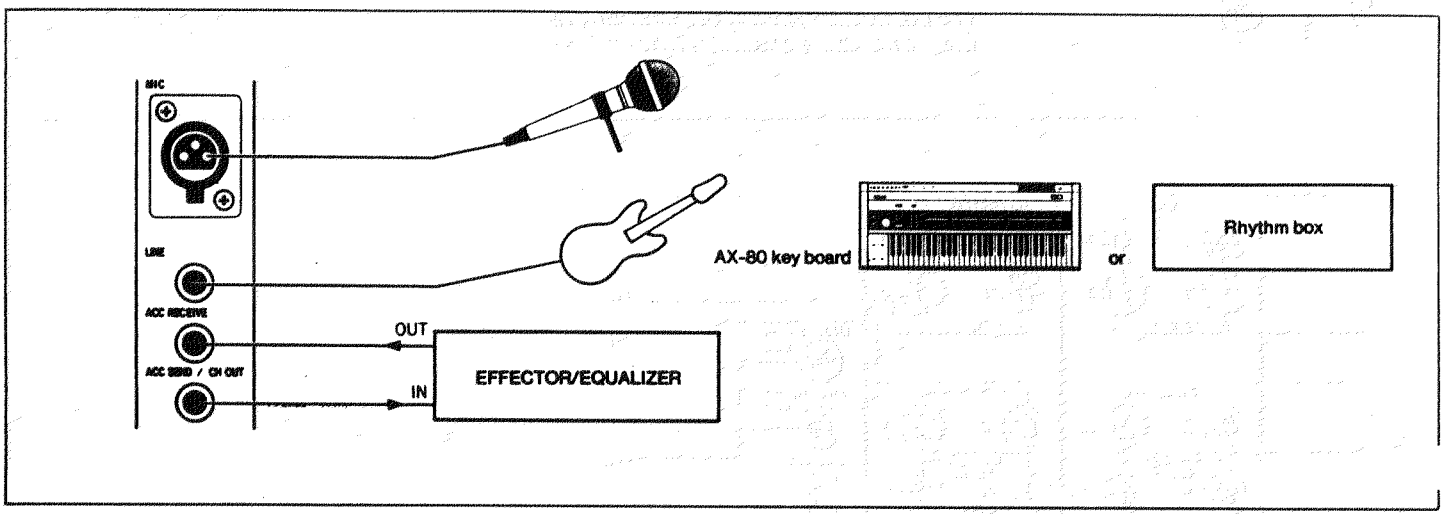
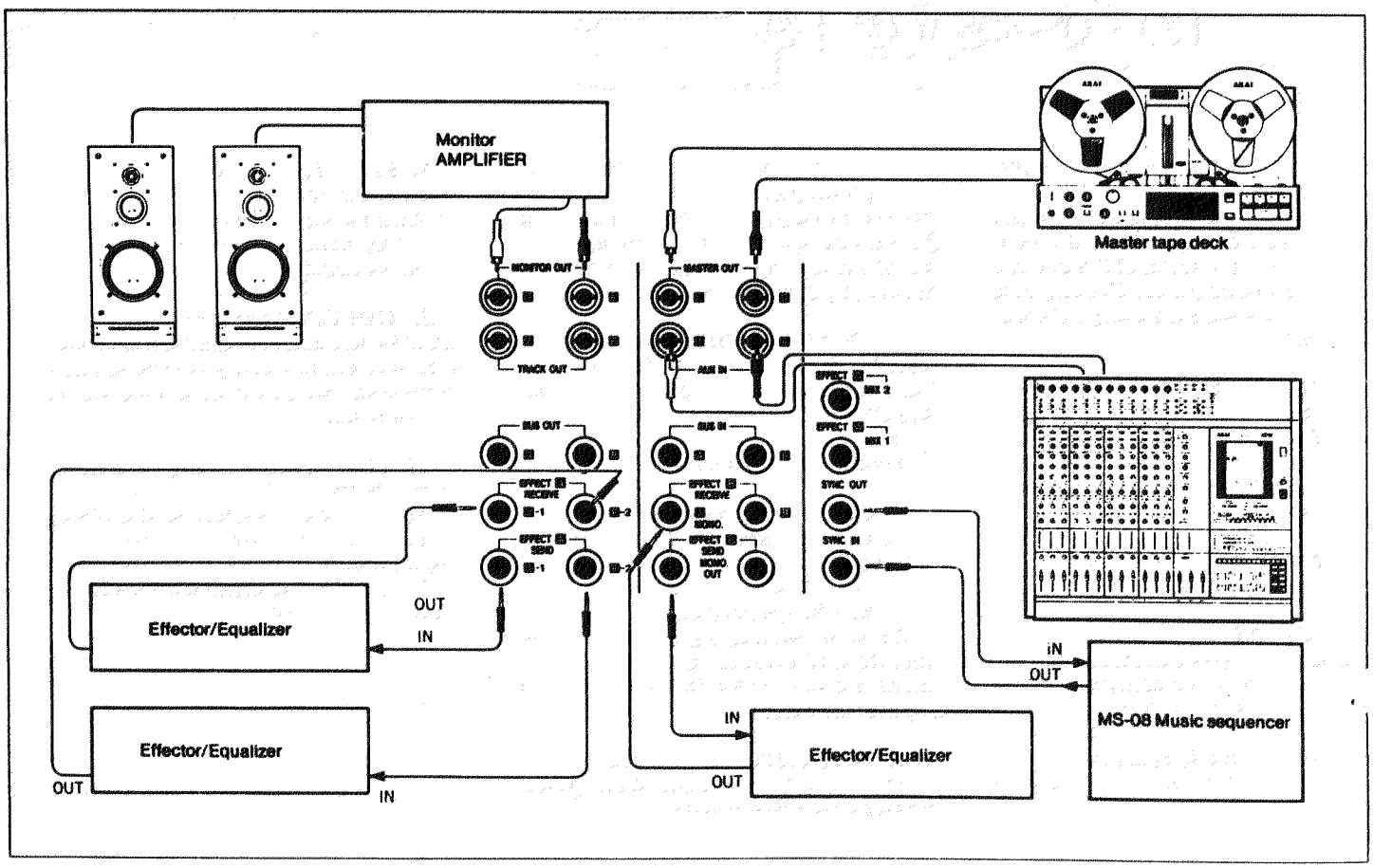
Connections

- Make all connections only when the power of the MG1212 and the power of the units connected to it are off. (The power cords should be connected only after all other connections have been made).
  Turn off the power when disconnecting units.
- The power for all of the units should be taken from the same line if possible. This prevents differences in power voltage from occurring.
- Microphones manufactured by the same company should be utilized when multiple microphones are used for recording. This insures that all of the microphones will have the same phase.
- Use only the specified plugs and be sure that they are inserted fully into their respective jacks.
- Clean the plugs and jacks periodically. Dirty plugs and jacks can cause poor connections, distortion, or noise.





Loading and unloading cassette tapes

Loading cassette tapes

The MG1212 uses AKAI's exclusive power eject and direct load-in systems. These features can only be used when the power is on.

Loading of cassette tapes

1. Press the **POWER** switch to turn the power on.
2. Press the **EJECT** (⏏) to open the cassette holder.
3. Insert the cassette tape into the cassette holder with the opening/closing side all the way to the back. The label side of the cassette tape should be facing up.
4. Press the **STOP** (■) button to close the cassette holder. The tape is automatically set to the recording/playback ready mode by the auto loading system.

Unloading cassette tapes

1. Press the **STOP** (■) button to stop tape transport.
   * Nothing will happen with this unit if only the **EJECT** ( ) button is pressed while the tape is transporting (recording, playback, rewind, or fast-forward).
2. Press the **EJECT** (⏏) button to open the cassette holder after confirming that the tape has stopped.
3. Remove the cassette tape.
4. Press the **STOP** (■) button to close the cassette holder.
   - If the power is turned off when the cassette holder is open, it will automatically close when the power is turned back on.

MK 20 MTR cassette tape

Use only MK 20 cassette tape with the MG1212. The MK 20 uses a high performance cobalt magnetic material. The recording and playback systems of the MG1212 have been designed to bring out the full capabilities of this high performance magnetic material.

Recording time

9.5 cm/s (3 3/4 ips) → 20 minutes
19 cm/s (7 1/2 ips) → 10 minutes

Storage of cassette tapes

- Avoid heat sources (direct sunlight, heating devices, etc.)
- Avoid humidity.
- Do not subject the cassette tape to shocks (dropping it) or strong vibration.
- Do not bring it near magnetic fields (motor, speakers, etc.)
- Avoid dusty or dirty locations.
- Do not open the cover or touch the surface of the tape.
- Do not take the cassette apart.
- Store the cassette tapes in their covers.

Note:
The MK20 cassette tape cannot be reversed and used on the other side.

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Basic recording procedures

Operation procedure

1. Press the **POWER** switch to turn the power on.
2. Press the **EJECT** (⏏)to open the cassette holder. Insert the cassette tape into the cassette holder.
   * Lightly press the cassette holder or the **STOP** (■) button to close the cassette holder.
3. Press the **MEMO CLEAR** and the "0" button of the auto-memory buttons to reset the **TIME COUNTER** and **MEMORY TIME** displays to "00:00 0".

Setting tracks

4. Press the channel/track selector buttons (1—12) buttons corresponding to the tracks to be recorded.
   The display of the selected tracks changes from PB to **REC** and starts blinking. The **REC** indicators of the input modules to be used for recording also light up.
   If canceling of tracks is desired
   Press the buttons corresponding to the tracks to be cancelled. The PB display lights up.

Confirmation of the control track

5. Confirm that the **CONT** indicator is blinking. If the indicator is not lit up, press the **CONT** button to start it blinking.

Setting the sync (synchronization) track

6. Press the **SYNC** button.
   The **SYNC** indicator will start blinking.
   Recording level is adjusted by the **SYNC LEVEL** control of the master module.
7. Press the **REC PAUSE** (●) button to go to the recording standby mode.
   The brinking **REC** displays light up, and the indicator on the **PLAY** (▶) button start blinking.

Setting the recording level

8. The recording level is adjusted at the input modules with signal inputs.

Recording level

The recording level of te input modules with signal inputs is set between the seventh and eighth marks of input faders. Set the peak of the input signal as displayed on the recording track level meters to approximately "0".

9. Press the **PLAY** (▶) button to start recording.

Temporarily stopping recording

10. Press the **REC PAUSE** (●) button.
    Recording can be started again by pressing the **PLAY** (▶) button.

Stopping recording

11. Press the **STOP** (■) button to stop recording.

12. Press the channel/track buttons corresponding to the blinking **REC** displays to change them to PB displays.
    Press the **CONT** and **SYNC** buttons to extinguish their respective indicators.

Preventing accidental recording

To prevent accidental recording

Pressing the **ANTI-REC** button prevents the unit from entering the recording mode even if the **REC PAUSE** (●) button is pressed, in order to prevent accidental recording.

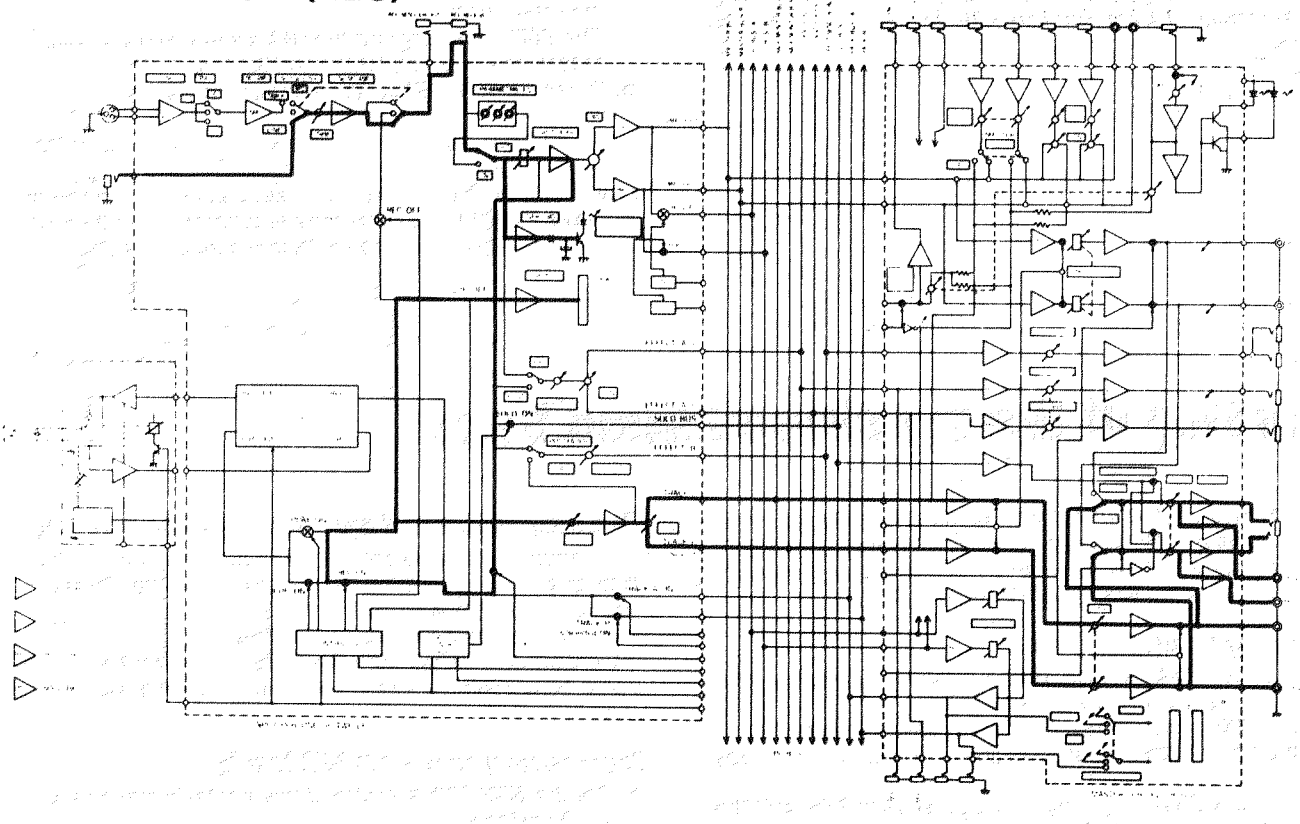
The **ANTI-REC** button can be used in the recording and recording standby modes.

Operation procedure

Press the **ANTI-REC** button. The indicator lights up to indicate the accidental recording prevention mode.

This mode can be cancelled by pressing the button again, extinguishing the indicator.

TRAC MONITOR (REC)



Recording of control signals

This procedure is used to record control signals used for the tape counter onto the control track of unrecorded MK20 cassette tapes. Recording of control signals allows the utilization of a variety of functions in combination with the tape counter.
The same procedure is used for partially recorded MK20 cassette tapes.
If there are no control pulses recorded on the tape, the TIME COUNTER display will not function and the colon (:) on the display blinks.

Operation procedure

1. Press the **POWER** switch to turn the power on.
2. Insert an MK20 cassette tape.
3. Confirm that the **CONT** indicator is blinking. Select the tracks for recording if other tracks are to be recorded.
4. Press the **REC PAUSE** (●) and **PLAY** (▶) buttons simultaneously to start recording.
   The **CONT** indicator and the **REC** display of the tracks used for recording will stop blinking and light up.
5. Press the **STOP** (■) button to stop recording.

Recording of control signals onto partially recorded MK20 cassette tapes
Rewind the tape to a point 2 or 3 seconds before the point where the **TIME COUNTER** display stops functioning, and then follow the above procedure to record additional control signals.

Recording of the synchronization track

This procedure is used to record the signals of an electronic metronome onto the synchronization track to use these as the synchronization signals for the automatic playing of music sequencers and synthesizers and for multi-track recording.

Operation procedure

1. Connect the **SYNC IN** jack to the synchronization signal output of a music processor or synthesizer.
2. Press the **SYNC** button. The indicator will start blinking.
3. Press the **REC PAUSE** (●) button to go to the recording standby mode.
4. Adjust the **SYNC LEVEL** control of the master module until the −10 level indicator starts to light up.
5. Press the **PLAY** (▶) button to start the recording of the synchronization signal.

Other tracks can be recorded at the same time if they are set to the recording standby mode (when **REC** display is blinking).
If the synchronization signal is not to be recorded, press the **SYNC** button to extinguish the **SYNC** indicator.

Recording level of synchronization signals

The recording level is set at the point where the −10 level indicator starts to light up. This is to eliminate the effect on neighbouring tracks (cross talk).
Recording of synchronization signals
If the device to be synchronized does not output a clock signal, use a tape interface and record the converted synchronization signal.

Monitoring of the SYNC track

1. Set the **MONITOR** selector of the master module to the **TRACK** ( ) position.
2. Adjust the monitor level with the **SYNC MONITOR** control of the master module.
3. Plug headphones into the **PHONES** or **MONITOR OUT** jack for monitoring.

Playback of synchronization signals

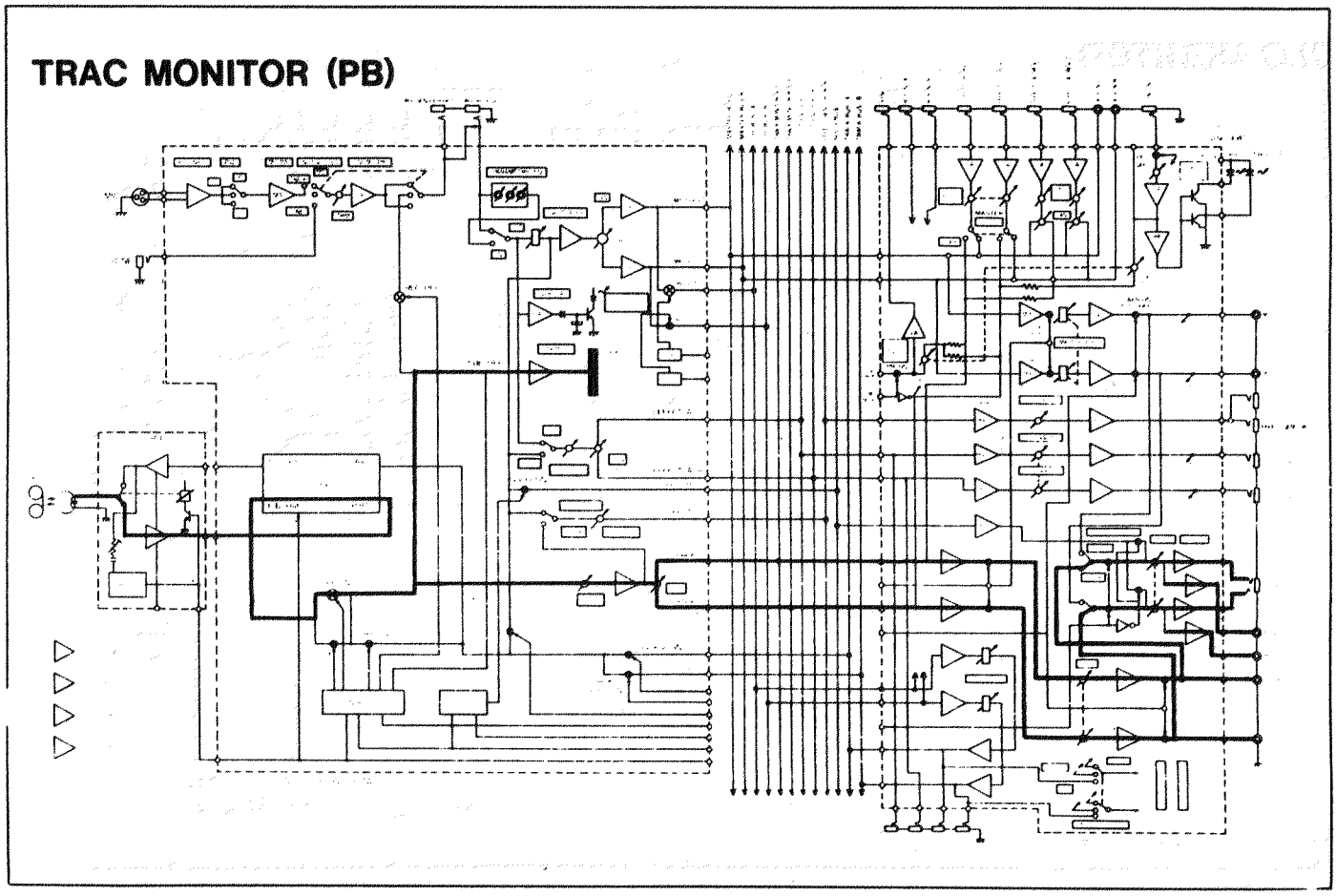
1. Connect the **TAPE SYNC IN** jack (synchronization signal input) of the music synthesizer or rhythm machine to the **SYNC OUT** jack of the MG1212.
2. Press the **PLAY** (▶) button to start the playback of synchronization signals.
3. Adjust the playback level with the **SYNC MONITOR** control. The level of the signals output from the **SYNC OUT** jack is the level the signals were recorded at.

Basic playback procedures

1. Press the **POWER** switch to turn the power on.
2. Press the **EJECT** (⏏) button to open the cassette holder. Insert the cassette tape into the cassette holder.
   * Press the **STOP** (■) button to close the cassette holder.
3. Press the **MEMO CLEAR** and the "0" button of the auto memory buttons to reset the **TIME COUNTER** and **MEMO TIME** displays to "00:00 0".

Preventing accidental recording

4. Confirm that the **PB** displays are lit for all tracks and that the **SYNC** and **CONT** indicators are extinguished.
   Press the appropriate buttons if either the REC display, the **SYNC** or **CONT** indicator blink.
5. Set the **MONITOR** selector of the master module to the **TRACK** position.
6. Press the **PLAY** (▶) button to start playback. The monitor level is adjusted by the **TRACK** level control.
7. Press the **STOP** (■) button to stop playback.



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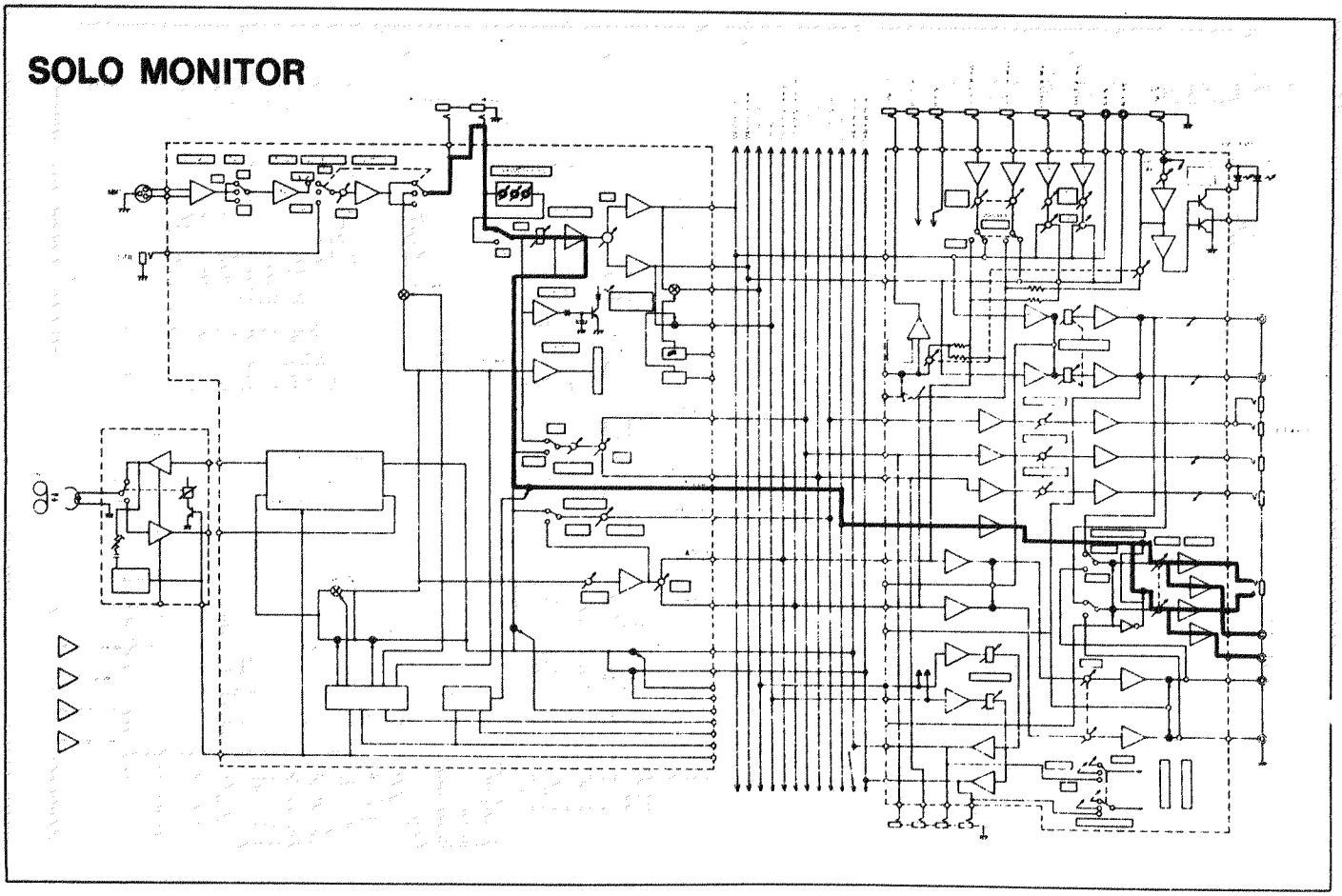
Monitoring using the SOLO button

This function allows monitoring of the output of a specific input module.

Operation procedure

1. Turn the power on and insert a cassette tape.
2. Press the **PLAY (▶)** button to start playback.
3. Press the **SOLO** button. The corresponding indicator will light up.
4. Press one of the channel/track select buttons (1—12) corresponding to the input module to be monitored. The normal monitoring mode will be returned to when the button is released.

Pressing the **SOLO** button again returns the unit to the normal monitoring mode, and the indicator will also be extinguished.



Playback using the CUE button

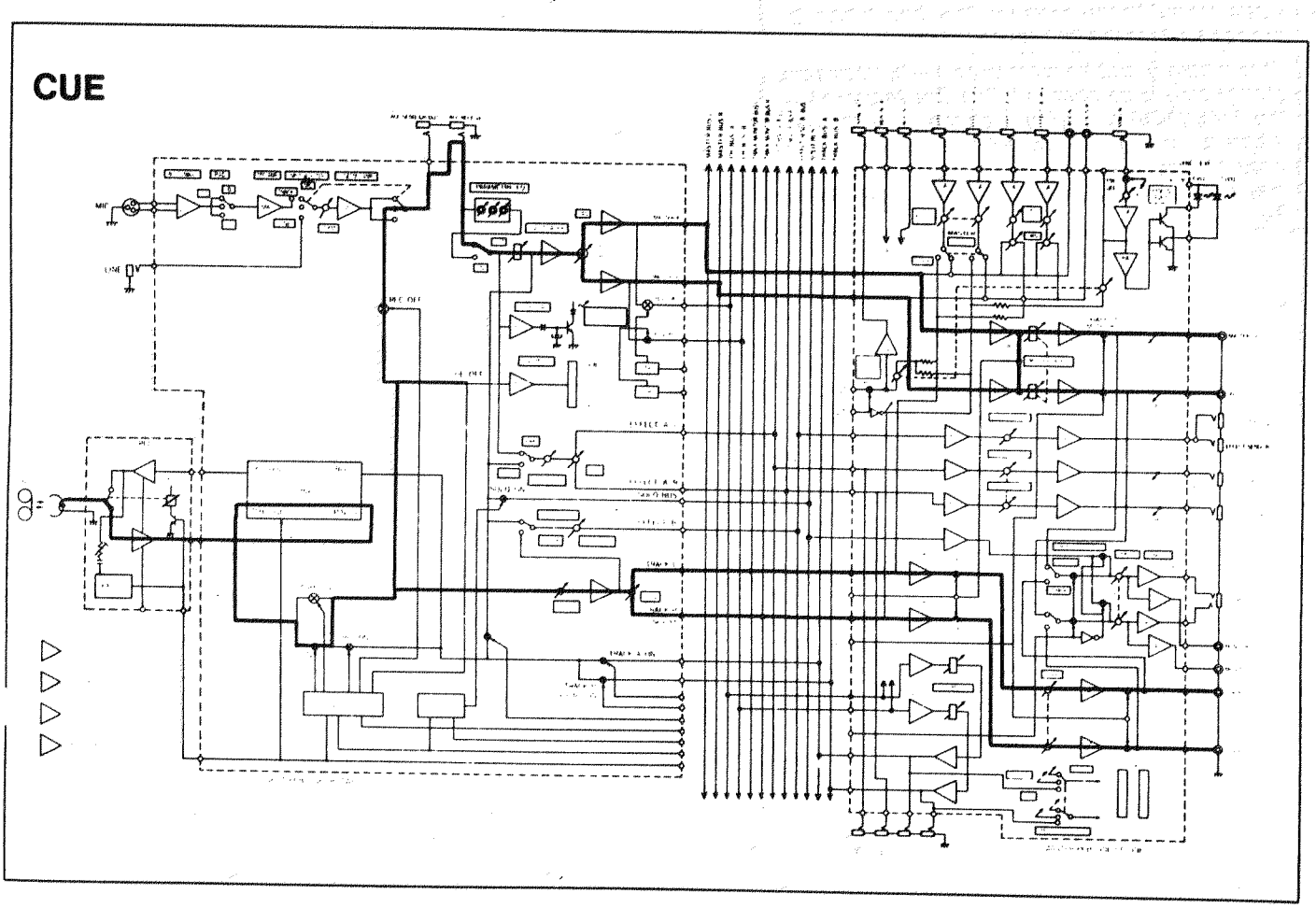
The **CUE** button can be used to listen to the recorded sound while the tape is being rewound or fast-forwarded. This function is useful for searching for the beginning of pieces and the unrecorded sections between selections. The recorded sound is heard when the **CUE** button is pressed.

Operation procedure

1. Press the **RWD** (◀◀) or **F.FWD** (▶▶) button to start the rewinding or fast-forwarding of the tape.
2. Continue to hold down the **CUE** button.
   The monitor level is adjusted by the **MONITOR** control of the master module.

Note:
Signal monitoring is not possible when the input fader control or **TRACK** level control is set to 0.

If the **REC** display flashes on and off when in the **CUE** operation, do not press the **STOP** (■) button.



Memory systems of the MG1212

The MG1212 has two memory systems: the one-touch auto memory, and the manual memory which allows a certain time to be specified.
The time set in the memory can be used with such auto systems as the **MEMO SEARCH** button, **REPEAT** button, and punch-in/punch-out.

Auto memory

The auto memory system of the MG1212 is equipped with a total of ten memories (0—9). By entering the desired time during recording or playback, the auto system can be used to the fullest extent when editing. The memories of the auto memory system are as follows:
Note that the smallest time unit which can be stored in a memory is a second.

Button	
0	Always set to "00:00 0". This time setting cannot be changed.
1—8	The time indicated on the **TIME COUNTER** display is stored in the corresponding memory when a button is pressed. The button number and the stored time will be indicated on the **MEMORY TIME** display when the memory button is pressed, and the indicator lights up. Once stored in the memory, the time cannot be changed unless it is first cancelled.
9	This memory, unlike memories 1—8, allows the stored time to be changed. The time indicated on the **TIME COUNTER** display is stored in the memory when a button is pressed. The time can be changed by pressing the button again. This memory is used for searching with the minus (—) button.

Setting the memory time in the manual mode (manual memory system)

Operation procedure

1. Press the **MANU MEMO** button. The indicator lights up and the **MEMORY TIME** display indicates the previously set time.
2. A time setting is entered with the numeric keys (0—9).
   For example, if the desired time is 1 minute and 30 seconds, the buttons are pressed in the order of 0 → 1 → 3 → 0.
   If the desired time is 10 seconds, the buttons are pressed in the order of 0 → 0 → 1 → 0.
   If the desired time is 15 minutes and 15 seconds, the buttons are pressed in the order of 1 → 5 → 1 → 5.
   * The procedure for the designation of the time uses the base-60 counting system.

Confirming the contents of the memories

Auto memory
Press one of the lit buttons. The memory number and the time setting stored in the corresponding memory will be indicated on the **MEMORY TIME** display.

Manual memory
Press the **MANU MEMO** button. The time setting stored in the manual memory will be indicated on the **MEMORY TIME** display.
Press the **MANU MEMO** button again and the indcator will be extinguished.

Memory search

.. When the search for the beginning of a particular piece is desired, use the auto memory buttons or the **MANU MEMO** button to cause the desired time to be indicated on the **MEMO TIME** display.
2. Press the **MEMO SEARCH** button. According to the time displayed on the **TIME COUNTER** and the time displayed on the **MEMO TIME** display, the search is carried out as follows:
TIME COUNTER time > **MEMORY TIME** time → rewind
TIME COUNTER time < **MEMORY TIME** time → fast-forward
3. Press the **PLAY** (▶) button after setting the **MEMO SEARCH** to play back the tape from that point.

Reverse searching (searching using the minus button)

This search function allows reverse searching from the time stored in the auto memories.

Before operation

Store the time of the beginning of the desired portion in the auto memory.

Operation procedure

1. Press the button of the auto memory to be used for reverse searching. The time setting will be indicated on the **MEMORY TIME** display.
2. Press the minus (—) button.
3. Use the numeric keys (0—9) to set the reverse search time. This will be indicated on the **MEMORY TIME** display.
For example: If reverse searching of 3 minutes from 18 minutes is desired, the buttons are pressed in the order of 0 → 3 → 0 → 0.
* The procedure for the designation of the time uses the base-60 counting system.

Press the minus (—) button again if cancelling of the operation is desired.

4. Press the **MEMO SEARCH** button to start searching. The **MEMORY TIME** display wil display "15:00" in the above case (3 minutes from 18 minutes).

If the specified time is not correct

1. The **MEMORY TIME** display will indicate " E-:-- ", and the search mode will be released.
2. The time setting stored in the memories is not affected.

Clearing the memories

These procedures are used to clear time settings from the memories. The memories can all be cleared or individual memories can be cleared separately.

Clearing all memories

Operation procedure

1. Press the **MEMO CLEAR** button. The **MEMORY TIME** display indicates " C-:-- ", and the indicators of the memories containing time settings start blinking.
Press the **MEMO CLEAR** button again if cancelling of the operation is desired.
The memory restoration function will not function when all of the memories are cleared.
2. Press the **MEMO CLEAR** button. All of the stored time settings are cleared and the **MEMORY TIME** display is reset to "00:00 0".

Clearing selected memories

Before operation

Confirm the time setting to be cleared by pressing the memory buttons corresponding to the indicators lit up.

Operation procedure

1. Press the **MEMO CLEAR** button.
The **MEMORY TIME** display indicates " C-:-- ", and the indicators of the memories containing time settings start blinking.
The indicators continue blinking until the **MEMO CLEAR** button is pressed again.
2. Press the memory button corresponding to the memory to be cleared. The indicator of the selected memory is extinguished.
The memory restoration function prevents the memory contents from being cancelled.
3. Press the **MEMO CLEAR** button.
The **MEMORY TIME** display is reset to "00:00 0".

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Repeat playback

The repeat function of the MG1212 allows for continuous playback between when the **TIME COUNTER** indicates "00:00 0" and the specified time. This function also can be used with the time setting stored in the auto memories and the repeat end stored in the manual memory for continuous repeat memory playback.

Before operation

- Insert a MK20 cassette tape, and store the repeat times in the auto memories (0—9) by pressing the corresponding memory buttons during recording or playback.

Use of the MANU MEMO button

The **MANU MEMO** button allows for the setting of the desired end time for repeat playback.
Set the repeat end time beforehand.

Operation procedure

1. Press the **MANU MEMO** button.
   The indicator will light up and the **MEMORY TIME** display will indicate the previous time setting.
2. Use the numeric keys to set the repeat end time. This time setting will be indicated on the **MEMORY TIME** display.
   For example: If the repeat end time is to be 1 minute after the start time
   The buttons are pressed in the order of 0 → 1 → 0 → 0. If a mistake is made in entering the time, press the correct buttons until the desired time is indicated on the **MEMORY TIME** display.

The procedure for the designation of the time uses the base-60 counting system.

I Repeat playback from when the TIME COUNTER display indicates "00:00 0" to the specified time

Operation procedure

This procedure can be used during recording.

1. Press the **PLAY** (▶) button to start playback.

Setting the repeat end time

2. Press the **REPEAT** button at the point where repeat playback is to end. The indicator will light and the **MEMORY TIME** display will indicate "00:00 0". The tape will be automatically rewound.

The tape is rewound until the **TIME COUNTER** display indicates "00:00 0", and repeat playback automatically begins. The **MEMORY TIME** display indicates the point at which the **REPEAT** button was pressed (repeat end time).

Cancelling the repeat playback

3. Press the **STOP** (■) button to stop repeat playback.

* Repeat playback can also be cancelled by pressing the **F.FWD** (▶▶) button or the **RWD** (◀◀) button.

II Repeat playback from a time setting stored in an auto memory to the specified time

Operation procedure

1. Press the **PLAY** (▶) button to start playback.

Setting the repeat start time

2. The repeat start time, having been stored in an auto memory, can be set by pressing the corresponding auto memory button when the indicator is lit. The time setting stored in the memory and the memory number are indicated on the **MEMORY TIME** display.

Setting the repeat end time

3. Press the **REPEAT** button at the point where repeat playback is to end. The indicator will light up and the **MEMORY TIME** display will indicate the repeat start time. The tape will be automatically rewound. The indicator of the memory button corresponding to the memory where the repeat start time is stored will start blinking.

Repeat playback automatically begins when the time indication of the **TIME COUNTER** display and the **MEMORY TIME** display is identical. The **MEMORY TIME** display indicates the point at which the **REPEAT** button was pressed (repeat end time).

Cancelling the repeat playback

4. Press the **STOP** (■) button to stop repeat playback. The indicator on the **REPEAT** button is extinguished.

* Repeat playback can also be cancelled by pressing the **F.FV** (▶▶) button or the **RWD** (◀◀) button.

III Repeat playback using time settings stored in an auto memory or a time setting stored in the manual mode

Operation procedure

Setting the start time for repeat playback

1. Press one of the auto memory buttons corresponding to a lit indicator. The stored time setting and the memory number are indicated on the **MEMORY TIME** display.
2. Press the **REPEAT** button. The **REPEAT** indicator lights up and the indicator of the auto memory containing the repeat start time starts blinking. The tape is automatically rewound to the repeat stop time. The repeat start time will be indicated on the **MEMORY TIME** display.

Repeat playback begins between the stored times.

Setting the repeat end time

3. Press one of the auto memory buttons corresponding to a lit indicator or the **MANU MEMO** button during repeat playback or while the tape is being rewound. The indicator of the depressed button starts blinking. The **MEMORY TIME** display indicates the repeat end time.

Cancelling the repeat playback

4. Press the **STOP** (■) button to stop repeat playback. The indicator on the **REPEAT** button is extinguished.

Ping-pong recording

The MG1212 has a built-in mixer which allows multi-track recording of a number of parts when a synthesizer is used, or mixing onto one track the playback of multiple tracks. The built-in dbx type I noise reduction circuitry prevents the SN ratio from deteriorating even during repeated ping-pong recording. Avoid ping-pong recording/ playback of neighbouring tracks.

Example

Stereo ping-pong recording on tracks 1 and 2 of the contents recorded on tracks 5—12

Operation procedure

Setting track 1

Setting the BUS-A channel (playback track)

1. Press the **CH-A** button.
   The **CH-1—12** of displays of **BUS-A** start blinking.
2. Press 5—12 of the channel/track selector buttons (1—12).
   The **CH** displays corresponding to the pressed buttons stop blinking and light up.

Cancelling some of the channels

Press the buttons of the channels to be canceled. The **CH** display of these channels will start blinking again.

3. Press the **SET/CLEAR** button. The **CH** display will light up.

Setting the BUS A recording track

1. Press the **TRACK-A** button. The **TRK 1—12** displays start blinking.
2. Press one of the channel/track selector buttons (1—12).
   The **TRK 1** display lights up.

Changing the set tracks

Press the channel/track selector button, which is the same as the lit **TRK** display. The **TRK** display will start blinking, indicating that the track has been cancelled. The track for recording can be re-selected.
* More than one track can be specified

3. Press the **SET/CLEAR** button.
   The **TRK** display of the set tracks lights up and the **REC** display starts blinking. The **REC** indicator on the input module also lights up.

The above procedure sets track 1.

Setting track 2

Press the **CH-B** and **TRACK-B** button and set the track by the channel/track selector buttons, referring to the track 1 setting.

Note:

The track used for recording cannot be the track already set for track 1.

Adjusting with the mixer

1. Set the input selector of input modules 5—12 to **TRACK**.
2. Set the **METER** selector of the master module to **BUS**.
3. Press the **PLAY** (▶) button to start playback.
4. Adjust the imaging and level of the various tracks by the **PAN** control and input fader control of each input module.

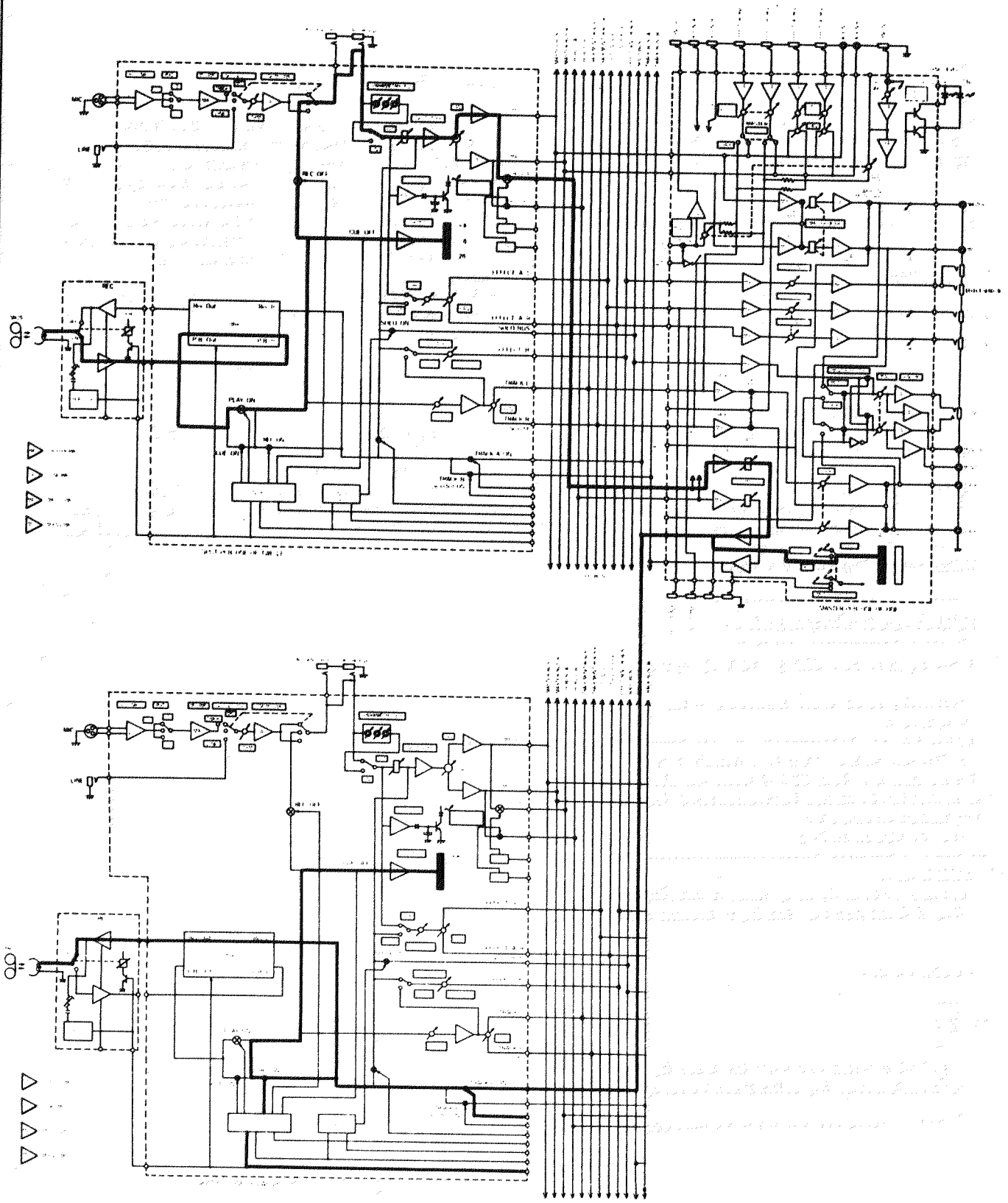
- Adjust the **BUS** fader control so that the level of the master module meter does not exceed 0. Setting the input fader control and BUS fader control to approximately 7—8 is the standard setting.
- Set the **PARAMETERIC EQ IN** ⎍ **/OUT** ⎎ to **IN** ⎍ if use of the equalizer is desired, and adjust the equalizer to obtain the desired effects.

Starting ping-pong recording

1. Use the memory search function to rewind the tape.
2. Press the **REC PAUSE** (●) and **PLAY** (▶) buttons simultaneously to start ping-pong recording.
3. Press the **STOP** (■) button to stop ping-pong recording.

After recording, press the channel/track selector buttons of the blinking tracks (for example, 1 and 2) to change the display from **REC** to PB.

Ping-Pong Recording (Ping-Pong Recording from Track 1 to Track 5)



Punch-in/Punch-out recording

The auto and manual memory systems of the MG1212 can be used for setting the times for automatic punch-in/punch-out recording. Multiple tracks can be specified for punch-in/punch-out recording by use of the channel/track selector buttons.

Operation procedure prerequisites

- Use the memory buttons to store the punch-in and punch-out times in the auto memories (1—9).

Using the **MANU MEMO** button

The **MANU MEMO** button can be used for punch-in/punch-out recording of the desired length. The following procedure sets these times.

Operation procedure

1. Press the **MANU MEMO** button.
   The indicator lights up and the **MEMORY TIME** display indicates the previous time setting.
2. Use the numeric keys to set the punch-out time. This time setting will be indicated on the **MEMORY TIME** display.
   Example: If the punch-out time is to be 50 seconds later:
   The buttons are pressed in the order of "0" → "0" → "5" → "0".
   If a mistake is made while entering the punch-out time, press the correct buttons and confirm that the desired time setting will be indicated on the **MEMORY TIME** display.

The procedure for designating the time uses the base-60 count-j system.

Setting the punch-in/punch-out times

Operation procedure

1. Press the **PUNCH IN-OUT** button. The indicator lights up and the indicator of the **MANU MEMO** button and the indicators of the auto memories containing time settings start blinking.

Setting the punch-in time

2. Press the memory button corresponding to the auto memory where the punch-in time is stored. The indicator of the button stops blinking and lights up. The **MEMORY TIME** display indicates the time setting stored in the memory and the memory number.

Setting the punch-out time

3. Press the memory button corresponding to the auto memory where the punch-out time is stored. The indicator of the button stops blinking and lights up. The **REC** display of tracks 1—12 starts blinking.

Setting the tracks for punch-in/punch-out recording

4. Press the channel/track selector buttons (1—12) corresponding to the tracks to be used for punch-in/punch-out recording (multiple tracks can be specified). The **REC** display of the selected tracks stops blinking and lights up. The indicator of the **PUNCH IN-OUT** button starts blinking.
   Cancelling set tracks
   Press the channel/track selector buttons corresponding to the track to be cancelled. The lit REC display will start blinking.

4. Press the **PUNCH IN-OUT** button.
   The indicator lights up. The REC display of the tracks selected for punch-in/punch-out recording start blinking.

The above procedure sets the punch-in/punch-out time and tracks.

Executing punch-in/punch-out recording

Operation procedure

1. Use the **TIME COUNTER** and **MEMORY TIME** displays to rewind the tape to a point before the punch-in time.
2. Press the **REC PAUSE** (●) and **PLAY** (▶) buttons simultaneously to start tape travel. The **MEMORY TIME** display indicates the punch-in time.

- **When the punch-in time is reached**

The **REC** display of the track for which the punch-in and punch-out times are specified stops blinking and lights up, and the recording begins (punch-in). The **MEMORY TIME** display indicates the punch-out time.

- **When the punch-out time is reached**

The lit **REC** display of the track for which the punch-in an punch-out times are specified starts blinking, and the recording mode is released (punch-out). The **MEMORY TIME** display indicates the punch-in time again.

3. Press the **STOP** (■) button to stop the tape travel.

If punch-in/punch-out recording is to be repeated, rewind the tape and repeat the above procedure.

Cancelling the punch-in/punch-out mode

Press the **PUNCH IN-OUT** button. The indicator is extinguished and the mode is cancelled.

Playback/recording using the P.B. MUTE button

This feature allows the unnecessary tracks to be muted during track-down operations and ping-pong recording, without using the fader controls. The auto and manual memory systems of the MG1212 can be used for setting the times for muting. Multiple tracks can be specified for muting by using the channel/track selector buttons.

Operation procedure prerequisites

Use the memory buttons to store the muting start and end times in the auto memories (1—9).

The **MANU MEMO** button can be used for setting muting of the desired length by setting the muting end time.

Operation procedure

1. Press the **MANU MEMO** button.
   The indicator lights up and the **MEMORY TIME** display indicates the previous time setting.
2. Use the numeric keys to set the muting end time. This time setting will be indicated on the **MEMORY TIME** display.
   Example: If the muting end time is to be 3 minutes later:
   The buttons are pressed in the order of "0" → "0" → "3" → "0".
   If a mistake is made while entering the muting end time, press the correct buttons and confirm that the desired time setting will be indicated on the **MEMORY TIME** display. The procedure for the designation of the time uses the base-60 counting system.

Operation procedure

1. Press the **P.B. MUTE** button. The indicator lights up and the indicator of the **MANU MEMO** button and the indicators of the auto memory containing time settings start blinking.

Setting the playback muting start time

2. Press the memory button corresponding to the auto memory where the playback muting start time is stored. The indicator of the button stops blinking and lights up. The **MEMORY TIME** display indicates the time setting stored in the memory and the memory number.

Setting the playback muting end time

3. Press the memory button corresponding to the auto memory where the playback muting end time is stored. The indicator of the button stops blinking and lights up. The **PB** display of tracks 1—12 starts blinking.

Setting the tracks for playback muting

4. Press the channel/track selector buttons (1—12) corresponding to the tracks to be used for playback muting (multiple tracks can be specified). The **PB** display of the selected tracks stops blinking and lights up. The indicator of the **P.B. MUTE** button starts blinking.

Cancelling set tracks
Press the channel/track selector button corresponding to the track to be cancelled. The lit PB display will start blinking.

5. Press the **P.B. MUTE** button.
   The indicator lights up. The PB display of the tracks selected for playback muting start blinking.

The above procedure sets the playback muting times and tracks.

Executing playback muting

Operation procedure

1. Use the **TIME COUNTER** and **MEMORY TIME** displays to rewind the tape to a point before the playback muting start time.
2. Press the **PLAY** (▶) button to start playback. The **MEMORY TIME** display indicates the playback muting start time.
3. Press the **STOP** (■) button to stop tape travel.
   If playback muting is to be repeated, rewind the tape and repeat the above procedure.

Cancelling the playback muting mode
Press the **P.B. MUTE** button. The indicator will be extinguished and the mode canceled.

○ **When the playback muting start time is reached**
The **PB** display of the track for which playback muting is specified stops blinking and lights up, and muting begins. The **MEMORY TIME** indicates the playback muting start time.

○ **When the playback muting end time is reached**
The lit PB display of the track for which playback muting is specified starts blinking, and the muting mode is released.
The **MEMORY TIME** display indicates the playback muting start time again.

Mixing-down (tracking-down)

Mixing-down (tracking-down) refers to the process of creating a two channel stereo final master tape from the individually recorded original tracks. A number of master tapes having different equalizer, reverb and effector can be created from a single original tape. The MG1212 is a combination mixer and tape deck allowing speedy mixing-down simply by connecting the master deck, equalizer, and effector devices.

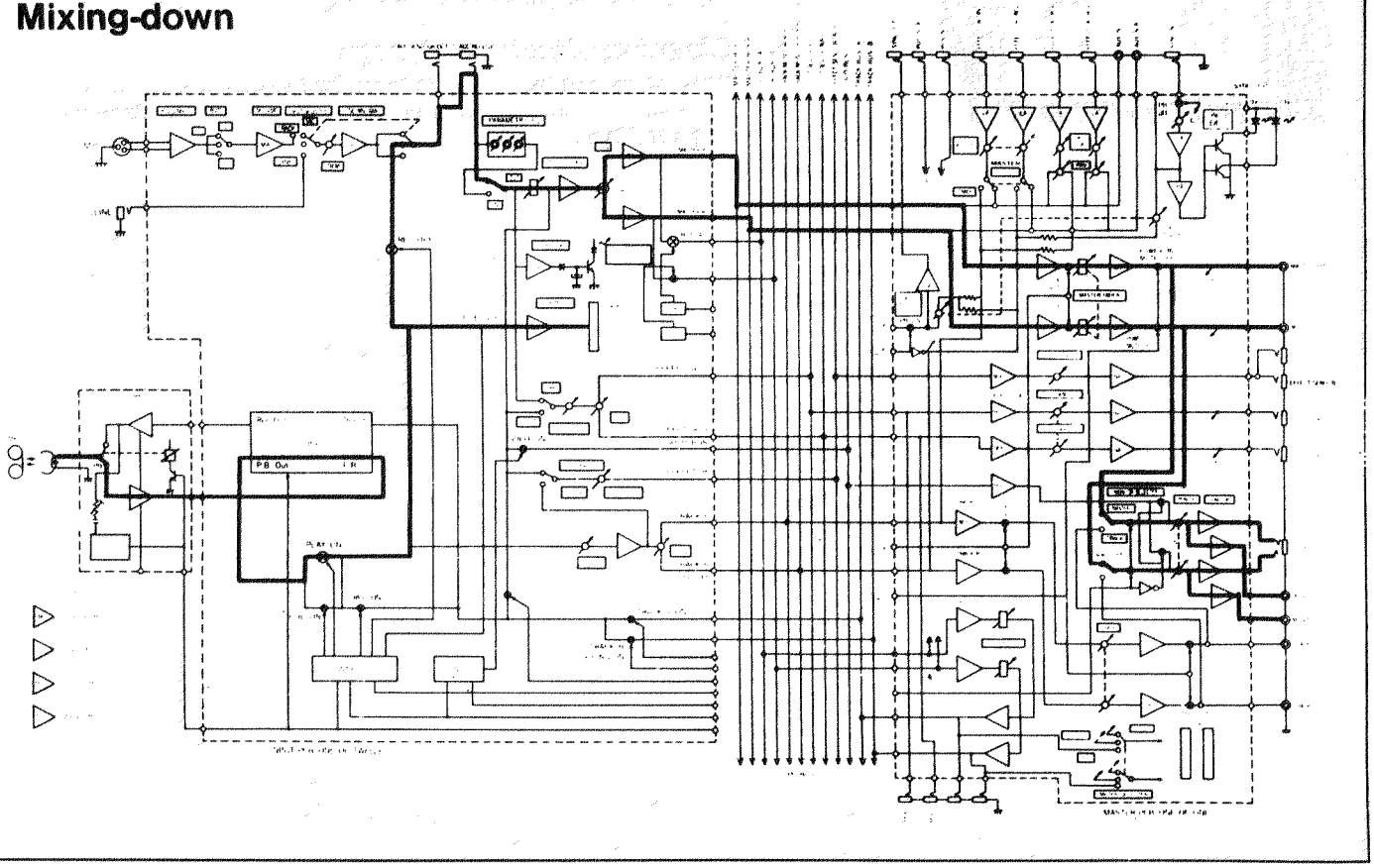
Operation procedure

1. Set the input selector of the input modules to **TRACK**, and the input fader of the input modules to maximum.
2. Set the **MONITOR** selector and **METER** selector of the master module to **MASTER**.
3. Press the **MEMORY CLEAR** button and "0" button to reset the **TIME COUNTER** and **MEMORY TIME** displays to "00:00 0".
4. Press the **PLAY (▶)** button to start playback.
5. Adjust the imaging of the recorded signals on the tracks by using the **PAN** control of each input module.
6. Adjust the level of each track by using the respective input fader controls.
7. Adjust the **MASTER** fader control so that the maximum playback level will be indicated as 0 on the meter.
   * It is convenient to store the time when the level is maximum, as indicated on the **TIME COUNTER** display, in an auto memory for use in adjusting the recording level of the master deck.
8. Use the auto memory to rewind the tape and check the master playback level.

The above procedure completes the adjustment of the MG1212.

9. Set the master deck to the recording standby mode. Adjust the recording level.
10. Press the **MEMORY SEARCH** button to rewind the tape to "00:00 0".
11. Press the **PLAY (▶)** button of the MG1212 to start playback after recording the signal for correcting the master deck level.

Mixing-down



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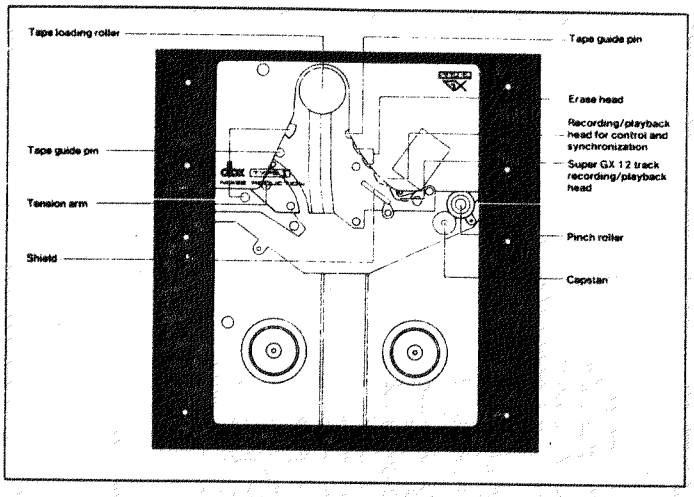
Maintenance

The folowing maintenance procedure should be carried out before each time the MG1212 is used in order to keep it in the optimum operating condition.
The places where the tape comes into contact with heads, capstan, pinch roller, loading roller, upper guide, tension arm, etc, becomes dirty with magnetic particles from the tape and fine dust. Magnetization is also liable to occur after extended usage. This is caused by small amounts of residual magnetism remaining in the core of the heads. Magnetization causes a decrease in the signal level at high ranges and increases noise. Magnetism is also liable to occur on other metallic parts such as the capstan, tape guide, and tension arm.



Cleaning

Be sure to remove the cassette tape before opening the maintenance cover.
Soak the cotton swabs of the tape deck cleaning kit with the supplied cleaning liquids. Carefully clean the heads, pinch roller, loading roller. tape guide and capstan.
Note:
Use the cleaning liquid specified for the respective parts. The pinch roller and loading roller are cleaned with the cleaning liquid specified for rubber parts.

Demagnetization

Be sure to turn off the power of the MG1212.
Bring the head demagnetizer about 50—60 cm from the heads and turn on the power of the demagnetizer. Bring the demagnetizer near the parts to be demagnetized and slowly raise and lower it, while gradually increasing the distance of the demagnetizer from the unit. Turn the power of the demagnetizer off when it about 50—60 cm from the heads.

Cleaning the panels

Dust and dirt can be wiped off with a soft dry cloth. If the panels are very dirty, a soft cloth moistened with a dish washing liquid or a neutral cleanser can be used. Never use volatile liquids such as thinners and benzine, or chemically treated cleaning cloths, as these can damage the finish.

Cleaning of jacks and plugs

Dirty plugs and jacks lead to increased resistance, noise, and distortion. Periodically use electric contact cleaner to clean the plugs and jacks.

Troubleshooting

Check the folowing first when there are a number of components connected to the MG1212:

- **Power of each component**
- **Input/output connections of each component**
- **Position of input/output adjustment controls of each component**
- **Position of selector switches of each component**

Sympton	Checkpoint or Cure
Deck	
Cassette holder will not open The EJECT button will not function	* The tape is running. * The power is not turned on.
The deck operation buttons will not function correctly	* The Ni-Cd batteries are not fully charged. Press the **RESET** button.
Recording will not take place	* The track to be recorded (including **SYNC** and **CONT** tracks) is not set to the **RECORDING STANDBY** mode (the **REC** display or the indicators should be blinking). * The **ANT-REC** button is depressed. * The **PLAY** button has not been pressed after the **REC/PAUSE** (●‖) button was depressed.
The recording input source signal selected cannot be recorded	* The **INPUT SELECTOR** has not been properly set for each **INPUT MODULE**. * The settings of the **TRIM** control, **INPUT FADER** and **BUS-A/B FADERS** are too low. * The **PAN** control has not been set properly.
The tape playback speed is incorrect	* The **TAPE SPEED** selector has not been set to the proper position. * The **PITCH CONTROL** is not set to the "0" position.
The tape stops while a deck operation button should be functioning	* The end of the tape has been reached.
The REPEAT function will not operate	* The previous setting of the **REPEAT** mode has not been completely cancelled. Press the **MEMO CLEAR** button twice.
The tape playback cannot be monitored, although the CUE button has been pressed	* The **MONITOR LEVEL** controls, the **INPUT FADER** controls, or the **TRACK LEVEL** controls have not been set to the proper levels.
The TAPE COUNTER will not function	* The control signal has not been recorded onto the cassette tape.
During mix-down operations or ping-pong recording, the recording track signals cannot be received	* The **INPUT** selectors have not been set to the proper positions. * The setting of the **INPUT FADERS** is too low. * The settings of the **BUS-A FADERS** and **BUS-B FADERS** are too low. * The setting of the **MASTER FADER** is too low. * The recording and playback tracks have been incorrectly set.

Mixer	
The desired input source signal selected is not being properly received	* The connections are incorrect. * The setting of the **INPUT** selector is incorrect. * The levels of the **INPUT FADERS**, **BUS-A FADERS**, **BUS-B FADERS**, and the **MASTER FADER** are too low. * The level of the **MONITOR LEVEL** control is too low. * The **MONITOR** selector has been set to the **TRACK** (▬) position.
The sound of the recorded tape is noisy or distorted	* The recording level is too high. * The levels of the equalizers or effector units are too high. * The tape heads are dirty. * The tape heads have become magnetized. * The tape is old or in poor condition.
The tape will not run smoothly	* The tape heads, tape guides or the contact surface with the tape are dirty. * The tape is old or in poor condition.
The sound is unstable or skips during playback	* The tape heads are dirty. * The tape is suffering from drop-out.
The built-in PARAMETRIC EQUALIZER will not function	* The **PARAMETRIC EQ IN/OUT** selector is set to the **OUT** (▟) position.
The connected equalizers or effector units will not function	* The equalizers or effector units have not been connected properly. * The equalizers or effector units have not been adjusted properly. * The levels of the **EFFECT A, B SEND** and **RECIEVE CONTROLS** have not been properly set.
The LEVEL METER runs off scale and the OVERLOAD indicator lights up	* The input level is too high. * The levels of the equalizers or effector units are too high. * Howling is occurring.

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